Other Lands and Other Times

Mary G. Kelty

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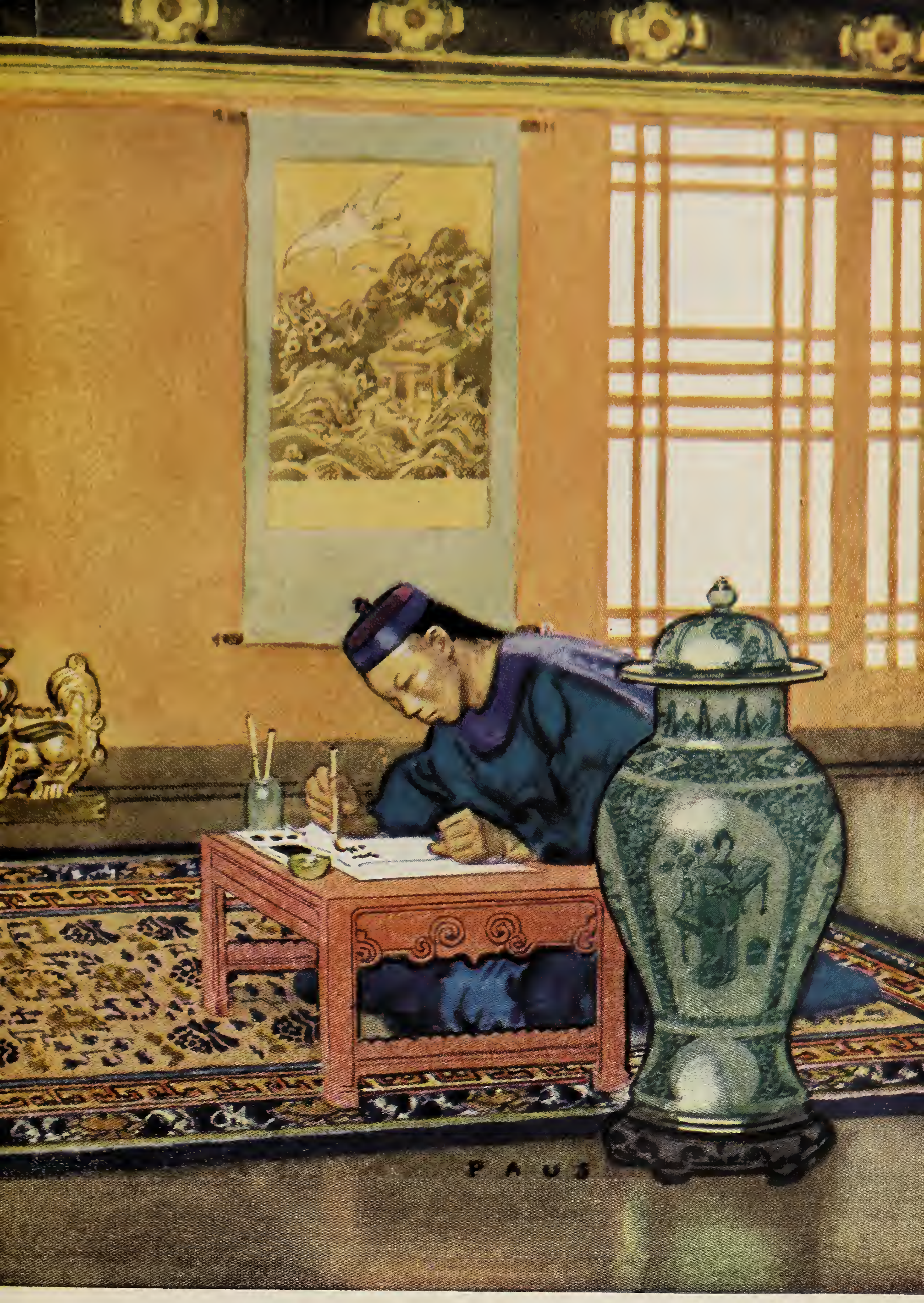
A Rich Man's House in China.



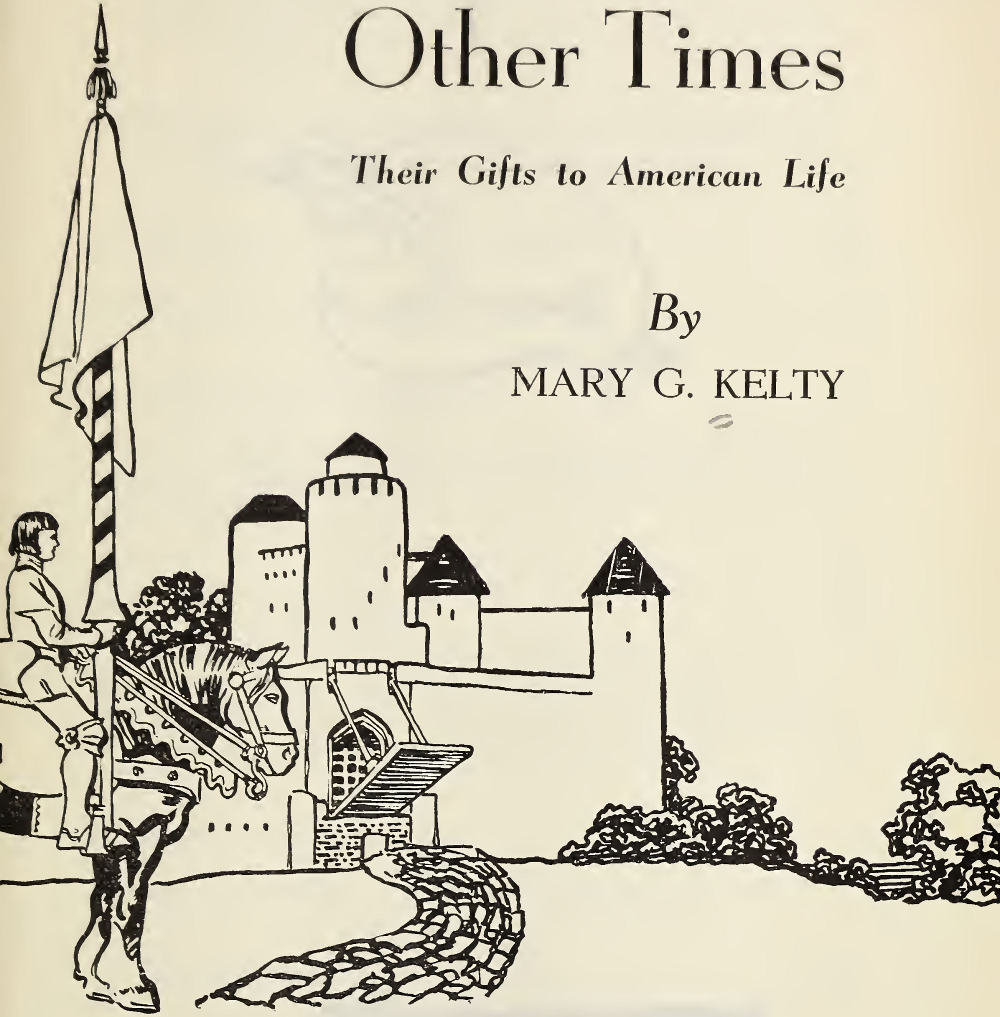
Can You Tell What the Men Are Doing?

Other Lands *and* Other Times

Their Gifts to American Life

By

MARY G. KELTY



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OTHER LANDS AND OTHER TIMES

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UNIT ONE

PEOPLE OF LONG AGO TAUGHT US TO LIVE IN SAFETY AND COMFORT

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A Story of Today

The First Problem: How to Keep Alive

Planning Better Ways of Living

Great Differences between Groups

New Things Are Now Learned More Quickly

What We Call "Civilization" Begins

Lost in the Woods

A Story of Today

James was lost in the woods. There was no question about it. For hours he had wandered about among the trees. He could find no road; not even a path. No buildings or fences were to be seen. He had run this way and that, calling for help. No one had answered him.

James was a brave boy. So he did not sit down and cry, although he felt like it. He had found some wild berries to eat at noon, and several springs had given him water to drink.

Then the sun went down and the air grew cold. Where could he sleep? Would he be safe from wild animals? He walked slowly as he thought of his home, of the warm living-room, and the good food his mother always prepared. At last he came to a hollow tree. Tired, hungry, lonely, and frightened he lay down inside it. Would anyone ever find him?

Hours later he heard shouts in the distance. Lights were moving about. Quickly he sprang to his feet and answered the shouts. Then he ran. Soon he was in his father's arms; tears of joy ran down his cheeks. He was safe once more

The next day James went to school as usual. He opened his new social-studies book to read the first story. It was about the way people lived ages ago. Suddenly he thought to himself: "That is the way I should have had to live in the woods if no one had found me. Could I have done as well as those people of long ago?"

What do you think the answer to that question must have been?

James walked home from school with his friends. He told them about his being lost. Then they all began to say what they would have done.

The first boy said, "I should have cut down some branches and made myself a house." But the others asked, "What would you have used for an ax?" He had no answer.

Another boy said, "I should have caught a wild animal and eaten it for dinner." The rest broke in. "How could you have caught it? You had no gun—not even a knife. And animals can run much faster than you can."

A third boy said: "I should have made a big fire. Then someone would have seen its light and would have come to get me." But the others shook their heads. "You would not have had any matches," they said.

James spoke up: "You know that story about men of long ago that we read today in our social studies. Those people were in even worse danger than I was."

Then everybody wanted to talk at once. So they sat down by the roadside. They tried to think how those people could have kept themselves alive. The following are the points they thought about:

How We Depend on People Who Lived Long Ago

In those far-off days there were no buildings, no roads, no fences, no tools, no furniture, no clothing. The people had to begin with no help at all.

A quiet boy who was the best thinker in the group said slowly: "We must remember another thing. Those people had never seen a house. They did not know it would help to keep them safe. They had never seen a fire. They did not know it would keep them warm. They had never seen a gun, a knife, or any kind of tool. Every one of these things they had to think out or invent for themselves. But some persons must have been able to do it—because we have all those things today."

The others looked at one another. "That is right," they agreed. "We certainly did not do any of the planning."

James jumped up. "I am going home to talk about this question with my father and mother," he said. The other boys nodded: "That is a good idea. Let us all do it."

When James reached the house, his father was just coming home from work. The family sat down and James told about the boys' talk. "Haven't we done anything at all for ourselves?" he asked. "Did people long ago figure out all our ways of living?"

"Look around this room," his father replied. "Did any of us think out how to make a house? or a chair? or a carpet? or a stove? No, we got those things from people who lived long before us."

"We did not learn for ourselves how to cook food or to make cloth or even to build a fire," his mother added. "Those too are gifts which we received from people of the long ago."

Father went on: "We would not even be sitting here talking about such things unless someone had taught us *words*. We learned our language from our parents. They learned it from their parents; and so we could go on, back for ages and ages. But somewhere, sometime, people invented language too. That is one of the best gifts that were ever left us."

James was very thoughtful. "It doesn't look as if we had done much for ourselves, does it?" he said. "It makes me feel sort of useless. Other people have done all the work. They have given us everything we have. Isn't there anything left for us to do?"

"Oh yes," his parents answered together. "There are two things for us to do. (1) We have to work hard to keep the world going. We must be careful to use wisely and well all that has been given us. (2) And in many ways we can make the world still better. We can make it a happier place for everybody to live in. There are many problems on which we and other parents are working at the present time. There will be many others left for you and your friends to solve when you grow up. Some of them you can begin working on right now."

"Didn't I see some of these things in your new book?" James's mother asked. "It seems to me I saw things called 'To Do' at the end of the stories."

"That's right," James replied; "I never thought before why they were placed there. Do you suppose that they were put there because they are some of the things which we ourselves can do?"

"I think it is likely," his father answered. "You have been given many gifts by people whom you never saw or heard of. Therefore you yourself should make some gift, too. Then you will feel that you have done your part as they did theirs."

James went back to his social-studies class the next day with a very different feeling. He had a new respect for the people of long ago who had made life so much more comfortable for all of us. And he made up his mind that he would do his share, too.

The First Problem:
How to Keep Alive

How to Get More Food

You can see that people who lived on the earth ages ago must have had a hard time to get food enough. It was difficult even to keep themselves alive. They could not walk down to the store and buy what they wanted. There were no stores. There were no fields of growing grain and no orchards. Most of the animals could not be used as food; they were stronger than man and could run faster. A man could not catch them.

So people had to spend all day wandering through the woods or over the plains, trying to find something to eat. Sometimes they could find berries or fruit or nuts. At other times they dug up roots. Almost always they were hungry. Often they bent down over a stream and drank much water from their hands; it helped to fill them up.

Even very young children had to find for themselves what they needed. The parents could take care of only the babies. If a child could not help himself, he was likely to starve.

Once in a while someone might be able to catch a young animal. Then there would be a feast. All had to

eat their meat raw, however. They knew nothing about cooking, and they had no pots or pans.

Often, when a man was running after a rabbit, he just missed reaching it. If his arm had only been longer! Then one day someone saw a stick of wood lying in the path. Quickly he picked it up. Now he could reach farther. He could strike a rabbit which he could not have reached with his hand.

That club was man's first *tool.* To be sure, he did not *make* it; but he learned to *use* it. Now he could get more food than he had ever had before.

He also learned to use other things as tools. A sharp stone could help him cut up an animal when he was lucky enough to kill one. A sea shell could be used to dip up water; it was easy to drink from, too.

You can see that early man was already beginning to *think.* He was using his brain. And he had a better brain than any of the animals.

Making a tool is another step ahead. But a man could not always find a sharp stone when he needed it. Many an hour he must have spent, wandering along a river bank or among the hills, looking for just the right stone. Many he must have thrown down; perhaps he almost gave up trying.

Then, because his eyes were sharper and his thoughts

Chipping Out a Stone Fist Hatchet. Which Piece of Stone Will Be the Hatchet?

were quicker than most people's, this man noticed something. A certain kind of stone always broke off in thin chips. (Today we call this stone *flint.*) The chips were sharp, but they were too thin to use as a knife. The piece of stone from which they came, however, had a sharp edge, too.

So this earliest inventor in the world sat down and chipped away at his piece of flint—one flake after another. He used a second stone to strike it with. After long and hard work, he had such a tool as you see in the picture on page 10. It was the first tool man ever *made.* Because he held it in his hand, we call it a *fist* hatchet.

With this fist hatchet he could do many things. He could skin an animal, cut branches from a tree, or even kill a small deer. His work was not so hard as it had been before.

After this man had made one kind of tool, it was easy for other people to make other kinds. The most difficult part was getting the idea in the first place. Soon there were stone axes, hammers, needles, scrapers, and many other tools.

To hold such sharp stones hurt a man's hands. So some bright person thought of a way to fasten a handle to a tool. One side of the stone was chipped away to make it flat, and strips of raw hide were used to bind it to a piece of wood.

Fastening a Handle to a Stone Ax. What Is the Man Using to Tie the Stone to the Handle?

As the hide dried, it pulled the two parts together very tightly. They felt very solid.

Do you think that was an easy thing to do? If so, try to fasten a handle to a stone. After you have tried many times and have failed, you will have even more respect for the workmen who lived so long ago.

All the tools, you notice, had to be held in the hand. But, as time went on, somebody, more intelligent than the rest, had another new idea. He would fix a very long handle to his stone weapon; then he would throw it very hard. In this way he could kill animals that were so far away he could never have caught them. Thus the spear was made.

By this time people had a large number of tools and weapons made of chipped stone. The period when these things were in use is called the *Old Stone Age*. Men of the Old Stone Age lived a very simple life; they are called *primitive* men.

A Home in a Cave

Tools did not solve all the problems, however. They could help to keep mankind safe during the day, but how could one be safe from wild animals at night?

Some groups made little platforms in trees. You may have seen such "tree dwellings" in motion pictures. Other groups built homes on pilings along the edge of lakes. Pilings are logs driven upright into the ground. They kept the houses out of the water. Such people were "lake dwellers."

Many more, however, searched out caves or holes in the hillsides. At night a whole family could creep inside. They could stop up the entrance with a big stone. Then they could sleep without fear.

How do we of the present day know about all these things? They happened long, long ago. Nobody took any pictures of them, and nobody wrote about how they looked. For of course nobody living at that time knew how to write.

But as the people lived in their cave year after year, they ate many meals there. Are you surprised to learn that the cave men threw the bones down on the ground? There they left them. Every once in a while a stone hatchet or an ax or a needle would be lost in the pile of bones. Nobody could find it; so there it stayed.

Sometimes the bodies of people who had died would be left in the cave, too. The rest of the family would move away.

Thousands and thousands of years went by. Then some men of our own times found the old cave. They dug carefully down into the deep layers of dirt. They came to many bones of animals. They found human bones too. And mixed in among the lot was sometimes a stone ax or a hammer or a spear or a needle.

Scientists studied all these articles very carefully. Then they were able to tell us what kinds of animals lived in those days and how the people must have looked.

Beginning to Wear Clothing

What did these people of long ago do with the skins of all the animals they killed?

At first they may have piled the skins together in a corner of the cave. The family slept on them at night in order to keep warm. During the daytime the cave men were constantly moving about; they did not feel the cold so much.

Did they begin to wear the skins of animals in order to keep warm in the daytime too? Or did they wear furs

Making Skin Clothing in a Cave Home.

because they thought furs were pretty? We really do not know. All that we are sure of is this: someone in the Old Stone Age tried to fasten several skins together. He wanted to have a piece of fur large enough to wrap around him.

How could he fasten them together? He bored some holes in each skin. Then he passed a narrow strip of hide or of bark through a hole in one skin and then through a hole in the other skin—one hole after another. Or he may have used a tendon, or sinew (the kind of cord you have seen in chickens' feet). He poked it through the hole with a sharp piece of bone.

Then some great inventor had a new and better idea. He bored a hole through his bone "pusher." Now his "needle" had an "eye." He threaded his strip of hide or sinew through the eye of his needle; and the world had learned how to sew! All the sewing that has been done since has used the idea of this Old Stone Age inventor.

Do you suppose that the skin clothing that was made in this way was comfortable? Perhaps you may once have

Can You Tell What Each Woman Is Doing?

felt the dry hide of some animal. It probably was stiff and hard. So too was man's clothing at first.

But people set their wits to work, as they had done before on other problems. They learned to put a raw, or "green," skin away to heat until the hair was loose. Then they soaked the skin in strong lime water.

After that the hair could be scraped off quite easily with a bone scraper. All the bits of meat were scraped off, too. The skin was staked down tight on the ground and was scraped again and again.

When this was finished, the skin was thin and smooth and even. But it was still stiff and hard. So fat, and soft materials like brains, were rubbed into it. Sometimes the women even chewed a skin to make it soft. No wonder the women had bad teeth!

When all this had been done, the skins were soft to the touch and lovely in color. They made comfortable garments for men and women and children. Now the people could be protected against the cold and storms.

Many People Together Can Do What One Man Cannot Do for Himself

Sometimes you hear people say: "It is natural for man to fight. Men always have fought and they always will. War is born in human nature."

Let us find out whether that is true. Or is it just as "natural" for men to work together as it is for them to fight?

You have already read about primitive men's search for food. When they were looking for berries, nuts, or roots, each man probably wandered about by himself.

But after such weapons as spears were invented, men began to hunt large animals. They hunted even elephants and fierce tigers. Such work could not be done by one person. It was too full of danger. The animal might turn on him.

A Band of Primitive Men Goes Hunting. The Headman Takes the Lead

Very early, therefore, primitive men began to hunt in groups. They ran in bands. After one man had thrown his spear, another would stand ready to face the animal. The first man then had a chance to run away.

The band that hunted together usually chose the strongest man and the best fighter to be *headman.*

If people had not learned to work together in this manner, they might all have been killed. A man hunting alone could not even have kept himself alive. But from the beginning people *did* learn to work together.

There is a word that means "to work together for the good of all." It is *co-operate.*

Therefore you can see that it is as "natural" for men to co-operate as it is for them to fight. Co-operation is in human nature too—just as war is.

To Talk About

What do you think your own community must have looked like in the days of primitive man?

What do people nowadays do when they want to increase the supply of food?

How could early man know which berries and fruits were safe to eat and which were not? Can you name some things growing wild which you should never try to eat?

Could the people who lived in your community in the earliest days have found any caves?

Have any bones of early people or animals ever been dug up near your community?

What kinds of animals' skins are used in clothing today? What kinds are used in furnishing houses?

In what ways do you co-operate with your classmates?

What animals were native to your own community?

Have any new tools been invented in recent years?

Why is man sometimes called "the thinking animal"?

What is a "vegetarian"? (Look in the dictionary or ask your teacher.) Why was early man a vegetarian much of the time?

To Do

Make a list of rules about what to do if you are lost in the woods.

Make a list of things you use every day that were gifts to you from people who lived before you.

Collect pictures of many different kinds of tools.

Can your class think of one thing it might do to make your schoolhouse more comfortable? of one thing to make it look nicer?

Can each of you think of one thing you could do to co-operate with the class better than you have been doing?

If possible, visit a shop where furs are sold, in order to see how skins are sewed together today.

Planning Better Ways of Living

You have already seen that primitive men soon learned to plan for themselves. They probably had as good brains as people of today. And they used their brains to find ways of making life more comfortable.

One of the World's Greatest Discoveries: How to Make a Fire

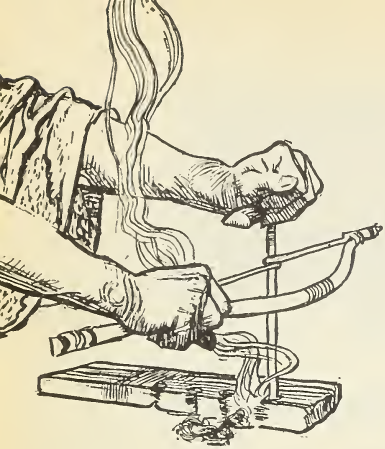
Life in a cave was much better than life outside. But a cave was a cold, dark place to live in. People wanted to be more comfortable.

Sometimes they had seen trees struck by lightning. The great forest fires that followed had filled them with fear. But they had also discovered that a fire could keep them warm. And the bodies of animals that had been partly burned (cooked) tasted much better than raw meat.

At last some man, braver than the rest, acted in spite of his fear. He carried some live coals or a burning branch to his cave. He piled wood on the coals and soon had his own fire.

What a difference a fire made in his home! He and his family could keep warm even in the coldest weather. Now they could roast their meat. It tasted better and it was easier to chew. The fire gave them a light at night. They no longer needed to go to bed as soon as it was dark. By the light of the fire they could chip out new tools at night or they could sew skins for clothing. More work could be done.

Different families came and sat by one another's fires. They told stories about their hunting trips and had a good time together. They no longer felt lonely. People felt more happy and gay than ever before.



A Fire Drill. Can You Explain How It Works?

But nobody yet knew how to *make* a fire if the old one went out. The only thing to do was to borrow some live coals from a neighbor.

We do not know who it was that first learned how to start a fire. But somebody did it. The first method used was probably rubbing two dry sticks together. Today Boy Scouts sometimes use that method. Then a fire *drill* was used, such as you see in the picture. The upright stick of hard wood was turned round and round so fast that it made the lower piece of wood begin to smoke. Then the piece burst into flame.

A pine knot could be lighted at night. This made a good torch. With its help a family could look about to be sure that no dangerous animal was hiding in their cave.

Later a better light was made. A hollow stone was filled with melted fat or oil. A piece of dry moss was put into it to serve as a wick. Then the family had a lamp. This would burn more steadily than a pine knot.

The family that had a fire and a lamp was much better off than the families of the earliest days. They could live in safety and comfort. Perhaps we would not think that they had much safety and comfort. But they thought so; no one had ever been so well off before.

Very much later, indeed, fire was made by striking together a flint and steel. This made a spark. The spark was caught on dry moss. Some of your forefathers in America probably started their fires with a flint and steel.

A Stone Lamp. What Is Used for Oil?

Women's Work Comes to Be Different from Men's

In the beginning all people had much the same kinds of things to do. They all had to wander about most of the day, searching for food. But already you have found that things were beginning to be different.

When the use of spears helped the hunting bands to fight wild animals, men proved to be better hunters than women were. They were larger and stronger. They could run faster. They did not have to take care of the babies.

After the use of fire was learned, somebody had to stay near the cave all day. For somebody had to put wood on the fire, to keep it burning. Who should stay at home? Of course, it was the women.

So the women no longer joined the men in hunting. They stayed near the cave home. During the day they could pick up pieces of wood. They could take care of the children. They could sew skins together. They could roast meat over the fire. Such work, you can see, was quite different from men's work. Each one now did what he or she could do best. This we call *division of labor* between men and women.

Neither men nor women were as independent as they had been before. The men depended on the women for making clothing and for cooking food. The women depended on the men for hunting and for protection. Neither could live very safely or comfortably without the other. Each one's work was important. And that is true to this day.

What to Do When the Group Becomes Too Large

For a long time the hunting band lived in comfort and safety. Probably they were happy and satisfied. As the

A Night Scene in a Cave Home. The Woman Is Sewing with a Sinew

children grew up they found other caves and had families of their own. The young men joined the hunting band. Thus the group grew continually larger and larger.

The larger the group the more meat it took to feed them all. As time went on, the animals in the surrounding country were killed off. Every year the hunters had to travel farther and farther into the woods.

What should be done? There had come to be more people than there was food.

The group sat down to talk the problem over. The headman sat in the center. The old men, who were wise, sat nearest him. The young men sat farther back; they had little idea what ought to be done. The women sat or stood around the outside. Some of the children listened, with the women.

One old man stood up and began to speak. All listened carefully. He described what had happened. All nodded that he was right.

Then the wise old man said that the band ought to break up. It had grown too large. Some members could form a new band and move toward the north. Others could form another band and move toward the south. They might even form three or four bands.

The people talked over the old man's plan. They decided that some such thing would have to be done, although they were sad at the thought of leaving their friends. You notice that the headman did not decide the question himself. He did not give orders to the rest. Each hunter had the right to speak and to help decide the matter.

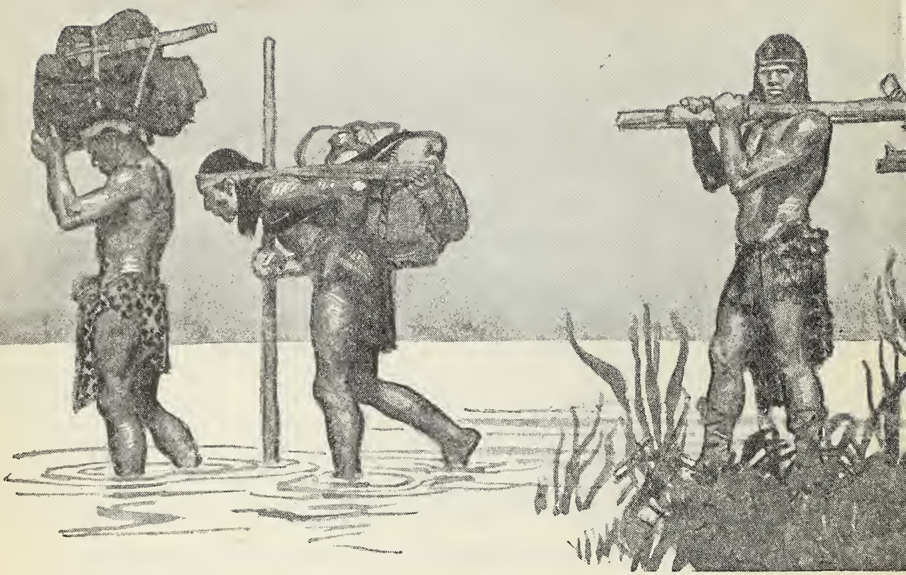
When all members of a group are equal, we say that their life is *democratic*. Primitive men in the earliest years were probably democratic in this sense. Is your own classroom a democratic place in which to live today?

Thus mankind began to break up into bands. The different bands wandered all over the face of the earth in search of food.

How to Travel and How to Carry Goods

It did not take men very long to learn the best ways to move about. They followed the trails made by animals. Animals did not want to cross low swampy land. They did not want to climb high hills unless they had to. The shortest and most direct ways, or *routes*, were the best. Primitive men found many such routes. Today roads and railroads often follow the paths that their feet beat out long ago.

How could these men carry all their stone weapons and their bundles of fur clothing? They found that one of the best ways to carry a load is on the head. A little pad of fur



A Small Band Moves to a New Home. Do You See Why Most

or grass kept the bundle from slipping to one side. Have you ever seen pictures of people in other lands, even today, carrying loads on their heads?

If the goods were too large or heavy to carry on the head, they could be strapped to a man's back. One heavy strap passed around the bundle and across the chest. Perhaps another one passed across the forehead; this was a *tumpline*. Some laborers use it even yet. Carrying a heavy stick helped a man to bear the weight of his load.

Much later, wooden litters were made, such as you see in the picture. Few of these were used, however; it was all that a man could do to carry his own goods. Only a very important person indeed could be carried on a litter.

As people had to travel farther and farther, their feet were often hurt by stones and sharp sticks. So they made

of the Old and the Sick Cannot Be Taken with the Group?

sandals, which they tied to the foot with straps. Or they made moccasins of skin.

What could a hunting band do if the members had to cross a river in order to reach their new homes? They might be able to find a shallow place where they could wade across; this was a *ford.*

Very early, men had learned to swim. Possibly they had watched the animals. But a swimming man cannot carry a load with him.

Men had found out that logs will float, for they had seen many fallen trees carried down the streams. Probably they had used such logs when they were learning to swim.

Some clever man then had an idea. He fastened several logs together, tying them firmly with vines. Then he had a *raft*; on it he could place many heavy goods.

Learning to Swim with the Help of a Log

But the goods were likely to get wet. Was there any way to keep them dry?

After the use of fire was discovered, men began to burn out the inside of a log, a little at a time. They would chip away the blackened part and then burn a little more. In this way they hollowed out a whole log. It could then hold a quantity of goods. The goods would not get wet in such a *dugout* canoe. Men stood at each end and pushed the dugout with long poles.

Carrying goods from one place to another is called *transportation.* These were the first methods that mankind found for transportation of goods by water.

Crossing a Body of Water on a Raft

Love of Beauty Is Natural for All People

Do you like to draw or paint? Do you like to sing or to play on some musical instrument? Do you like to choose pretty colors for your clothes? Do you like to make your home look as nice as possible? Probably you do; most people love beauty.

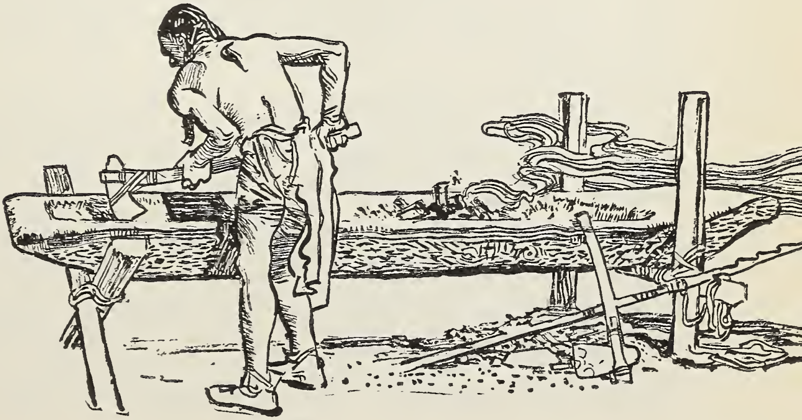
Do your parents like the same things, too? Do the people in your town or city try to make the city beautiful?

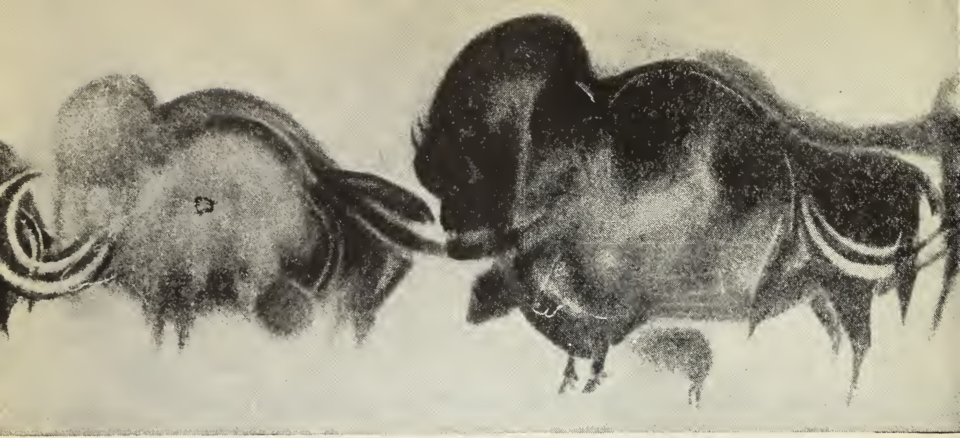
Most of us agree that people today enjoy making things look nice. But we are likely to think that people of past times were probably different. We are likely to think that they were too wild to care much about beauty.

That is not true. Even cave men, who had to spend most of their time searching for food, loved beauty, too. In their small way they tried to show how they felt.

How do we know? One proof is found in their tools and weapons. They often carved the head of an animal on a knife or a spear. This carving did not make the tool or weapon cut any better. But it pleased the man who used

Making a Dugout Canoe





American Museum of Natural History

Stone Age Paintings. What Animals Do You Think These Are?

it. He liked the looks of it better, and was willing to put in long hours of hard labor just to satisfy his love of beauty.

He did not keep his art "for best," to hang in his front room and to show only when he had company. Art was a part of his everyday life. The things that he used most often had to be pleasing to him.

He taught himself to draw too. Though he had no art teacher, his drawings were probably better than yours. Look at the picture on this page. Can you do as well? That picture was found on the ceiling of a cave used by primitive men. It was painted in red and yellow on the rock wall. The brushes that were used may have been made from animal hairs.

Many other primitive paintings and drawings have been discovered. Most of them are pictures of animals, done with mastery of line and form. They give a feeling of movement. Other drawings represent men and women hunting, dancing, or making war. They leave no doubt in our minds that men of the Old Stone Age were excellent artists.

They were not satisfied, however, with only carving, drawing, and painting. They liked also to act out scenes.

Especially did they like, after they had killed some large animal, to act out the hunting scene.

The two or three men who had done most to kill the animal were the actors. They showed just how they had crept up near the animal and how they had thrown their spears. The rest of the group sat in a circle and watched. They liked to "keep time" by clapping their hands. Sometimes they clapped slowly and sometimes very fast. (When would they clap slowly? When would they clap very fast?) They had a very good feeling for time, or *rhythm.*

Some of the actors soon began to speak. They told what they had said to the animal. And they told what the animal had said to them! Thus they began to give real plays.

As these plays were repeated year after year, all the group began to take part. The right movements had to be learned. Thus grew up the primitive dances. You may have seen some of them in motion pictures.

Children started to learn the movements for these dances when they were small. There were a great many to learn for each dance; and each had to be done in just a certain way. There was a dance for war, one for weddings, one for funerals, one for hunting, one for sickness in the group.

When the dances took place, fancy costumes were worn. The men painted their bodies with many figures and in many colors. Their spears were decorated, too. Some men had high headdresses, such as you see in the picture on page 30. Some wore masks, so that they would not look like ordinary, everyday people.

Primitive men were not long satisfied with only the sounds made by clapping their hands, snapping their fingers, and stamping their feet. They found that they could make a sound that they liked much better by pounding on a hollow log. That was the world's first drum.

Then they cut off a piece of the log. They covered it with a skin, pulled the skin very tight, and tied it down. The tone of the drum was better that way. Logs of different sizes, with a skin drawn more or less tightly, gave tones of different "pitch." Some were high; some were low.

Other "musical instruments" were used, as well. Flat pieces of hard wood were struck together with a clicking noise. Dried gourds were partly filled with seeds or little stones and shaken like a rattle. Many dance orchestras of today have borrowed this idea.

All the instruments that have to be struck are called *percussion instruments*. Can you name some percussion instruments that orchestras use today?

Horns of animals could be blown into. They made a noise somewhat like our horns of today. In fact, that is how our instrument came to be called a "horn."

Somewhat later some primitive musician blew into a hol-

A Primitive Dance. Notice the Masks, the High Headdresses, and the Musical Instruments

low reed or a piece of bamboo. He liked the tone. Then he learned to cut a few holes along the side. He could put his fingers over some of the holes and blow several different notes. That made a tune. And so the flute was born.

Musical instruments that have to be blown into are called *wind instruments.* Can you name some wind instruments that orchestras use today?

While all these instruments were producing sounds, you can be sure that man's own voice was not silent. He began to sing.

One of the actors in the play would sing a line; all the others would answer him. Then he would sing another line, and the rest would answer again. Of course none of the music was written down. It was learned "by ear."

Their tones were not like ours. Perhaps you have heard phonograph records of primitive songs. It would be very difficult for us to sing their music.

Another time when primitive men liked to sing was when they all worked together at some hard task. The rhythm of the music helped them to keep time. For example, they might sing "Hi-ho!"; and everybody pulled hard when he came to "ho!" Once in a while men even today do the same thing; for example, sailors while they are pulling on a rope.

You notice that early man used many of the arts together. In his dances he used acting, speaking, singing, playing on instruments, dancing, and fancy dress. No art was a thing to be used by itself. When used together they gave primitive man some of his best times.

To Talk About

Are animals still afraid of fire, as man was in the beginning?

Do you know of any places today where fires are always kept burning? (For example, the Tomb of the Unknown Soldier.)

Why do you suppose that many primitive people worshiped fire?

Do you think men's work in the world is more important than women's?

What division of labor is carried on in your own home?

Why are most of our community leaders older men and women?

Are questions about what ought to be done in your own schoolroom decided in a democratic way?

Do you follow a regular route in coming to school? Why?

Compare drawings made by your own class with the drawings made by primitive man.

Besides the things mentioned in the text, what else do you know that will make a musical tone?

To Do

Can you think of one thing you can do to overcome your own fear (as primitive man overcame his fear of fire)? Tell the class what you are trying to do.

A volunteer may tell the story of Prometheus, the fire-bringer.

Select one task you can do regularly in your own home. Then you may feel that you are doing your share in the division of labor.

Make a lamp as primitive man did.

Make a list of all the different kinds of transportation you have ever seen.

A volunteer may make a little dugout by burning and cutting a piece of soft wood.

If possible, visit a museum to see things used by early man.

Collect pictures of modern percussion instruments and wind instruments.

Practice "keeping time" in different rhythms, such as 4–4 and 3–4 time.

Decide on one thing that your class might do to cooperate with children who live in a far country. The Junior Red Cross can give you some ideas.

Great Differences between Groups

White Men, Yellow Men, and Black Men

Long years went by. The groups kept on wandering from place to place. Some groups wandered into one *continent* (Europe, Asia, Africa, or North America, for example); other groups went into other continents. In time the members of different bands came even to look different.

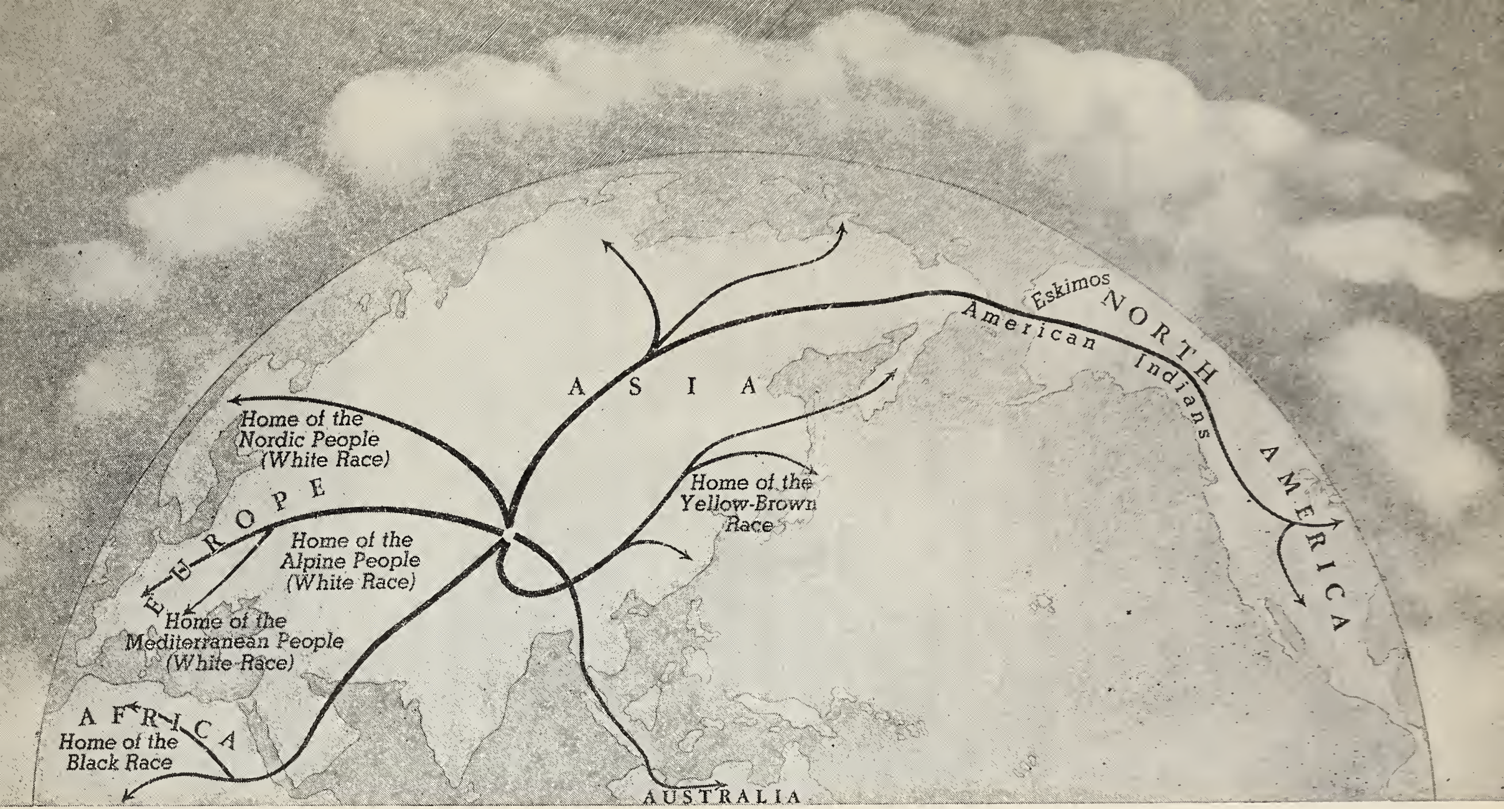
There were three great branches, or *races*, among them. One was the white group. Most of the people today in Europe, North America, and Australia belong to this race.

A second race was the yellow group. Today most of them live in Asia. Their skin has a yellow or yellow-brown color. Their eyes are dark and their hair is black.

The third was the black race. Black people, Negroes, live in Africa and on many islands. Many live in the United States. Most of the members of this race have dark-colored skin, curly hair, and big lips.

Thus you may see that the word "race" describes a person's *body*. It does not tell anything about his country. Sometimes you hear people talk about the German race, the English race, the French race, the American race, and so on. Of course that is a mistake. Germany, England, France, and the United States are countries, not races.

The three races that we have named are certainly different from one another. That does not mean, however, that one is *better* than the others. For example, can you say which is better—yellow hair, brown hair, white hair, or black hair? Of course not. No one of them is better than the others. Or can you say that black eyes are better than brown eyes, hazel eyes, gray eyes, or blue eyes? Again—of course not.


Eskimos
NORTH AMERICA
American Indians
ASIA
Home of the Nordic People (White Race)
EUROPE
Home of the Alpine People (White Race)
Home of the Mediterranean People (White Race)
Home of the Yellow-Brown Race
AFRICA
Home of the Black Race
AUSTRALIA

Wanderings of the Races of Men. This Map Shows One Way in Which the Races May Have Been Scattered over the Earth

The Three Races of Men.
Can You Tell
Which Is Which?

We all know that the bodies of different races are different. But we cannot claim that one race is better than any other, or that one of them is superior to another. When some Germans made that claim a few years ago, the world laughed at them.

Scientists have studied for a long time to find out whether one race is more intelligent than the others. They say there is no difference in real intelligence. Some races, however, have had a better chance than the others.

As you read the later stories in this book, you will find that all the races have taken part in the world's great discoveries. For example, Negroes discovered one of the most difficult kinds of work—the smelting of iron. The Chinese discovered the use of the compass. Without it, sailing far out into the sea would never have been safe. White people discovered the use of the wheel in moving goods. Nearly every factory in the world today would have to close if knowledge of the wheel should be lost.

Thus you can see that each of the different races has helped mankind.

Languages Differ, Too

You could now make a long list of the inventions that mankind has already made. But you probably would never think of one of the greatest. That is language.

Did you ever stop to think that words must have had a beginning, just as everything else had? Even today, if a man makes something new (like a zipper), he has to think up a name for it. If a woman cooks a new dish, she must decide what she will call it. In the same way, everything had to be named in the beginning.

The earliest people could probably tell one another their ideas only by signs. If your idea is very simple, you can easily tell it by a sign. For example, you could "act out" the following ideas: "Come here"; "Go away"; "Turn to the right"; "Give it to me." Do you want to try some others and see if your classmates can guess what you mean?

But many ideas you could not act out at all. For example: "Seeds must not be planted too early in the spring." "It is not right for people to tell false tales about their neighbors." Can you give other sentences that could not be acted out?

So primitive men had to give names to everything that they saw or did. In this way language grew up. It is still growing. Some new words that have been in our language only a short time are: airplane, radio, dive bomber, atom bomb. Can you name others?

Language helped to make it easier for people to think. If you do not believe that, try to think without using any words in your thoughts. You probably cannot do it.

By the use of words one man could easily exchange ideas with another. Each could tell what he had been thinking about. Then each had to think still harder, in order to

Trading by the Help of Sign Language

answer the other. They could work together much better after that. Progress would thus take place sooner and faster.

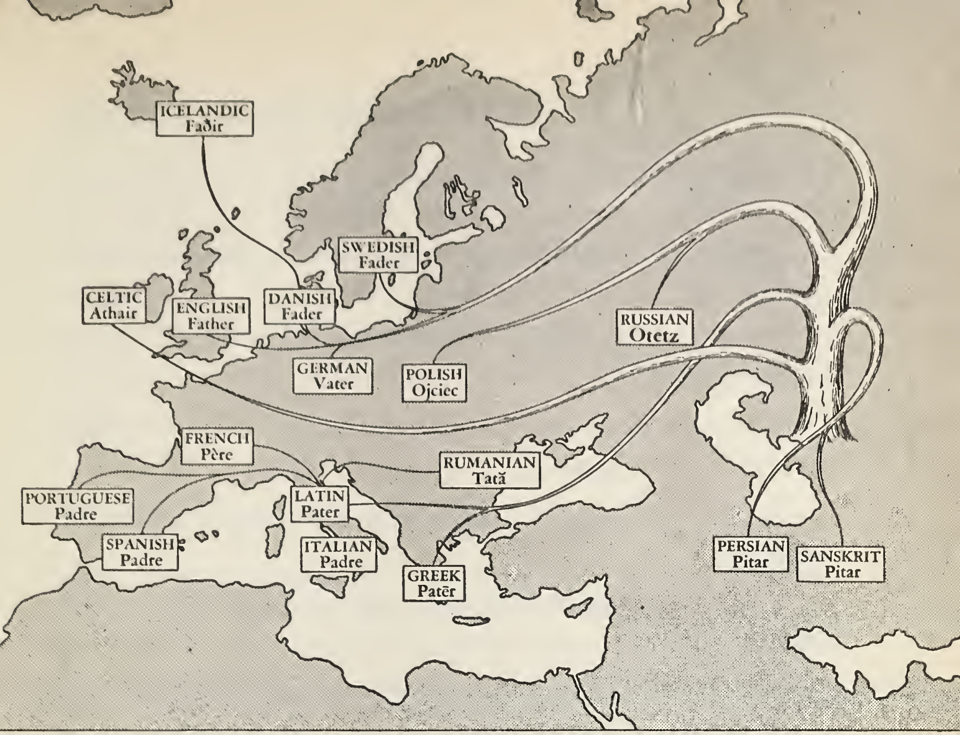
As the early hunting bands wandered farther and farther apart they no longer spoke alike. Have you ever heard a person from our own Southern states talking to a person from the North? Or a person from the East talking to a person from the West? How different their words sound!

After the primitive bands broke up, the men of each band saw little of those in other bands. So the speech of one group became more and more different from that of another group. In this way many different languages grew up.

For example, we who speak the English language speak about "father." The Germans say "Vater." The French say "père." The Spanish say "padre." The Romans said "pater." And many other languages use still other words for the same idea. Can you give any more examples?

Today grown-up people think that it is a very fine thing to know more than one language. Many of them go to school, study very hard, and pay a great deal of money in order to learn at least one language besides their own. Then they can talk to persons from another country. They can travel easily in that country. They can sell goods to those people. They can read papers and books in the other language.

Some children in America are more fortunate than others. Their parents can speak another language besides English. Therefore those children have a fine chance to learn a second language easily and naturally—and without paying for lessons! They should be very proud when they are able to speak two languages—just as they are proud



Language-Families from the Same Source. Notice How Many Different Ways They Say "Father"

when they can play the piano, or paint a picture, or drive an automobile.

Are there any children in your class who can speak other languages? If there are, you might like to make a list of the languages. Perhaps some of their parents might be willing to visit your school. They might tell you how to say many things in a different language.

Perhaps none of the children in your school can speak another language. If so, you might ask your parents whether any of your forefathers spoke something else besides English. Make a list of the different languages that they could speak. Bring your list to school and read it to the class.

To Talk About

Do members of different races live near your home? Do the members of one race feel that they are better than members of another race? Do they treat one another fairly?

What new inventions in recent years have called for new words to name them?

Have you ever heard people speaking a foreign language? Did it sound pleasant?

Are any languages besides English taught in your high school?

Is the American language the same as the English language?

Why does a Chinese baby learn to speak Chinese, while a Greek baby learns to speak Greek? Do you suppose that it is harder for the Chinese baby to learn to talk than for an American baby?

To Do

Print the names of the different continents. Can you point them out on a map?

Put up pictures of different races in your room.

Is there anything that your class can do to be more fair to people of other races?

Try to act out messages by sign language.

Make a list of words whose name sounds like the meaning of the word. For example: hiss, ripple, bang.

Make a list of all the different languages that you have ever heard of.

New Things Are Now Learned More Quickly

To find out all the things about which you have been reading took early man thousands of years. But the Old Stone Age had done the hardest part. With the help of language and fire, other things could now be learned much faster.

Better Tools Do Better Work

Have you ever tried to sharpen a pencil with a dull knife? Could you do a neat job? Then you can imagine how people of the Old Stone Age must have felt when they tried to cut up the bodies of animals with their knives of chipped stone. Or when they tried to cut the skins and make clothing of them.

We do not know who first discovered that certain stones could be used to grind the edges of the tools and make them straight and sharp. Such ground or polished edges were better than the old chipped edges. They were so much better that we call the time after they came into use the *New Stone Age.*

Hammers, axes, needles, spears, scrapers, and other tools were then made of ground stone. Not only did these do their work better but they were easier to make.

Grinding the Edge of a Stone Weapon. The Bowl Holds Water

Not all men everywhere, however, learned to polish stone. For example, some of the tribes in Australia did not know how to grind the edges of tools when white men first reached their country.

With better spears and knives men of the New Stone Age could kill animals more easily. But even the strongest of them could not throw a spear very far.

Was there any way to kill animals that were a long way off from the hunter?

It is too bad that we do not know the name of the man who found an answer to that question. He was one of the world's great inventors. He answered the question by making a *bow*. First he took a piece of tough, hard wood and tied a string to one end. Then he took hold of the other end, bent the bow, and passed the string around this other end. He pulled the string (or bowstring) very tight, until the wood bent like a half circle. Then he fastened the string to the second end. With such a bow an arrow could be shot very straight for a long way. It could strike very hard.

You notice that the *bow* was the important part of this weapon. The arrow was not nearly so great an invention, though it took longer to make. It was made like a small spear; the arrowhead was of chipped stone; the stick, or shaft, was a reed or a thin straight twig. Feathers were tied to it to help it to fly straight.

Stone Weapons and Tools. Can You Tell the Use of Each?

Making a Bow

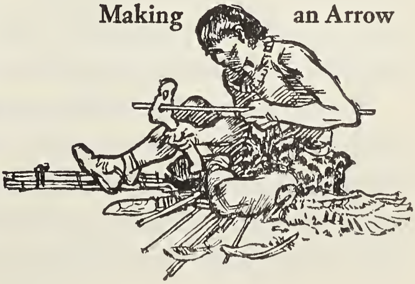
With a bow and arrow a man could kill even a large deer. This was the best weapon that anyone had until the use of gunpowder was discovered, many hundreds of years later.

Another use was found for it—a very different use indeed. The hunters liked to hear the sound, or "twang," of the bowstring when the arrow left it. So they often twanged it just to listen to the tone. Later they used two or three strings. And that was the great-great-grandfather of all our stringed musical instruments of today, such as the violin and the banjo. It was called the lyre.

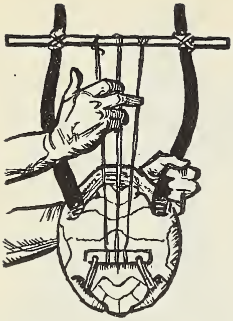
Taming Wild Animals Helps Man in Two Ways

The better weapons men had, the more animals they could kill. For many years after they began to use bows and arrows, they had more to eat and did not have to go hungry so much of the time as before.

But there was another side to the story, too. In time, with these better weapons, they killed off all the animals in their part of the country. Other bands were doing the same thing in other parts. It began to look as if people might starve to death!



Making an Arrow



A Lyre. How Is This Instrument Played?

Getting more food. If only the number of animals could be increased! We do not know who first got an idea about how this might be done, nor how the idea came to him. Maybe he watched young puppies playing around his cave. For, from the earliest beginnings, the dog had left the woods to live with men. He was man's best friend among the animals; and man's best friend he has remained to this day.

Perhaps, then, someone thought to himself: "Why not catch some other animals while they are young? We could keep them until they grew up and then eat them. We would always be sure of enough food."

Or perhaps a hunter caught a wild ox in a deep pit that he had dug as a trap. Instead of killing it at once, he may have kept it and fed it. After a while the animal may have become tame. And in time the hunter may have had a whole herd of cattle to eat when he needed food.

Anyway, men began to tame some of the animals. The dog helped him to catch them. Among the first to be tamed, or *domesticated*, were oxen, pigs, sheep, and goats. Then birds were domesticated and bees were kept. At first the animals were kept for their meat. Only later did people learn to use milk too. With such good supplies of food, men had all they wanted to eat. They learned how to raise animals and to get larger and finer ones year by year.

However, not all peoples everywhere learned to *domesticate animals*. For example, the early people of Mexico never learned to tame cattle or sheep. And even today there are many kinds of animals that we have never been able to domesticate. Can you name some?

An easy way of getting work done. You already know that the men of the Old Stone Age had had to carry all their heavy loads on the head or strapped to the back. They never had any help.

But after animals began to live with men, things were different. Why might not a dog help to drag heavy bundles of skins from the old home to a new home? Two long poles were fastened to a collar that passed around the dog's neck. Straps fastened them firmly to his body too. Then bundles were tied to the poles, as you see in the picture on page 46. The ends of the poles dragged on the ground. So this was called a "drag." The earliest French people in America found the Indians using it.

Now, for the first time, man had help in doing his work. Whatever does work is called *power*. Before, people themselves had always had to furnish their own power. Now another kind of power had been found. And man has been using animal power ever since.

The dog was not the only animal used. As soon as men learned to domesticate cattle, they made the cattle work, too. Oxen gave the most help because they were the strongest. But donkeys too could work, for bundles, or packs, could be tied to their backs.

Very much later the horse was tamed. He did the same kind of work as the other animals. A long time seems to have passed before anyone thought of trying to ride on a horse's back. But at last some brave persons tried it; they found that it could be done. Then the problems of travel and transportation were very much easier.

How to get water enough for flocks and herds. Every time that mankind has taken a step ahead, it has solved one problem. But then it has found several new ones!

A Desert Well. Notice the Dog's Load

As long as people had had to find water for only their own families, they could find plenty. A small spring or a little river gave enough.

But in order to get food enough for flocks and herds, men had to come down out of the woodlands. They had to move out on the grasslands. On open grasslands the little streams often dry up in summer. Many of the smaller springs dry up, too. So the men who domesticated animals had to search for the largest springs. These would give water even in the hottest weather. All the cattle could drink from them.

The men who owned herds soon found, however, that their cattle trampled down the edges of a spring; so they had to build a wall of stone around it. Sometimes they built a roof.

If the underground stream that fed the spring was a large one, it was strong enough to make the water gush out at the top of the well. A woman could come to such a well and dip her large jar in. She would carry the jar home on her head. The cattle could drink from the well, too.

The water in other wells did not gush up to the surface. It remained farther down, in the bottom of the well. People had to let down buckets on a long rope of skins and draw up the water. They took some home in their jars. And they filled troughs from which the cattle and sheep could drink.

Can you see in the picture how the rope passed around a pole? Such a thing is called a *windlass*. It also was a great invention. Are windlasses ever used today?

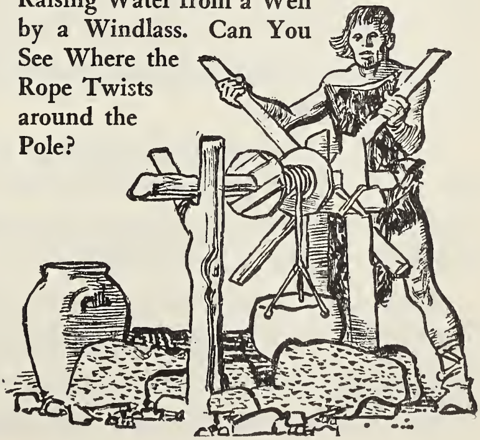
You can see how important such wells were. The people who lived on the plains could not have lived without them. Perhaps you remember reading old Bible stories. Persons in those stories very often spoke about wells.

Many wars were fought to see which group could get a well. And one of the worst things that a herdsman could do to his group was to harm a well. He was punished for that more than for killing a man. For the life of the whole group depended on the well.

Learning to make leather. Now that men had so many domesticated animals, they learned many uses for their hides. One thing that they learned was how to make *leather*. Leather is much heavier and tougher than deerskin.

The workmen first dried the hide and took the hair off. Then they soaked the hide in dark-brown water that had the bark of

Raising Water from a Well by a Windlass. Can You See Where the Rope Twists around the Pole?



certain trees in it. Hickory bark was good for this use. It helped to *tan* the hide; that means to make it more solid and strong than it was before. It thus became leather.

Such tough leather made heavy clothing. It could also be used to fasten the stone heads on tools and weapons. It could be used to hold the parts of a flail together. (See the picture on page 54.) It could be used as hinges to hold a door to a doorpost.

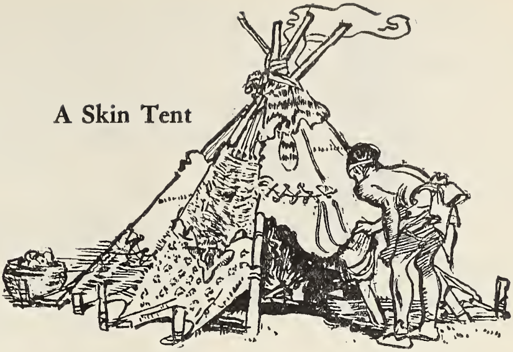
Men found ways to use other parts of animals' bodies besides the hides. Horns and hoofs were boiled in water. The water became rather thick, so that it looked somewhat like jelly. This was the world's first *glue*. You already know that bones were used to make needles and clubs.

The need for different kinds of homes. After men became herdsmen, it is easy to see that they could not live in caves. They had to come out on the open plains. What kind of homes could they find there?

The homes had to be easy to move, for cattle soon eat up all the grass in one part of the country. Then they and their owners have to move on. People who wander about from place to place are called *nomads*. All the early herdsmen were nomads.

At first a nomad family camped out on the ground. But the wind on the grasslands is often cold at night. So the men decided to put up some poles and hang skins over them to break the force of the wind.

Then they found that they would be kept still warmer if the hides were brought farther around the corners. Soon they had a *tent*. Poles made of young trees formed the framework. These were covered with skins sewed together or with mats woven from grass. The upper ends were tied fast to the poles. The lower ends were staked firmly to the earth.



A Skin Tent

An opening or flap was left for a door. A fire could be made inside. The smoke found its way out at a hole near the top. The family could sit around the fire.

Such a tent was a good home. Many peoples in the world today still live in tents.

To Talk About

Can all kinds of stone be used as grindstones?

Have you ever tried to shoot with a bow and arrow? How far could you shoot? Do you think you could kill an animal?

Is it wise to kill birds? Why not?

Have you ever heard of anyone who tamed a young wild animal?

What does the word "horsepower" mean as we use it today?

How did domesticating the dog help in domesticating cattle?

Are animals that are kept in the zoo "domesticated"?

What different kinds of power are used in your own home? What things there are run by power?

Do springs and small streams in your section of the country dry up in summer? Are there any wells near by?

If you had to carry in jars all the water you use, could you use as much as you do now? What things would you have to do without?

Of what are most of the homes in your community built? Where does the material come from?

To Do

Try to sharpen a knife on your mother's knife-sharpener. If possible, go to see a man sharpen a tool on a grindstone.

Do you feed your dog or cat regularly? Perhaps you would like to take over this job as your own.

Can you go to see how a windlass works?

Can each one of you think of one way in which you can improve your own house?

Find out whether the water supply of your city or your part of the country comes from lakes, from rivers, or from springs and underground streams.

Find out from your geography book whether any herdsmen in the world today are nomads.

Taming Plants for More Food

Not all people lived on grassy plains. Some lived in valleys made by rivers. Could they too find a way to be more sure of their food supply, even if they did not have large flocks and herds?

For many years these people had been eating the seeds of certain plants that grew wild in their wet lands. Today we call such plants "grain." Perhaps some New Stone Age men began to pull up the weeds that grew among the grain. That would help the plants to grow better.

Sowing Seed Broadcast

Or perhaps someone grew tired of having to wander about from place to place in order to find ripe grain to eat. He had a great new idea. He would carry the seeds to a place where the land was damp. He would drop them there and wait for them to grow. When they had grown, he would have as much grain as he could eat.

In this way he put the plants where he wanted them, instead of having to search for them. He helped the earth to supply enough food for his group.

The beginning of agriculture. In this way farming, or *agriculture*, was begun. Many men had the same idea in different parts of the world. Some planted wheat; some, barley; some, peas and beans; some planted young fruit trees.

Thus plants were "tamed" as well as animals. The plants too were *domesticated*. And other wild plants are still being tamed even today. Have you ever taken a tree or a flower from the woods to plant in your own garden?

How was the planting of the seeds done? At first they were just thrown out *broadcast* over the land. For certain plants, however, another way was better. A pointed stick was used to dig a little hole. The seeds were dropped in and covered, so that they would not blow away or be eaten.

Later a stone hoe was used. This was also found to be a good tool to dig up weeds around the plants while these

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Hoeing with a Stone Hoe. Think How Heavy Such a Hoe Must Be!

were growing. A long wooden handle saved the woman from bending over so far. We think that the world's first farmers were women. And hoeing was the earliest form of agriculture. It is still used in some kinds of farming—in rice-growing, for example.

But a pointed stick does not turn over the soil very well. It does not make a deep enough furrow. So, many years later, some man hitched an ox to the front end of his crooked stick. Or perhaps he hitched his wife to it! He took hold of the other end of the stick and pressed down with all his weight while the ox or the woman pulled. That was the world's first plow.

Because plows were heavy and hard to handle, farming began to change. It became men's work rather than women's work.

When their grain was ripe, the farmers cut, or *reaped*, it with a curved knife; this we call a *sickle*. They tied the cut grain into bundles, or *sheaves*.

How could the seeds be separated from the stalks in the sheaves? Several different ways were tried. One way was

Plowing with a Wooden Plow. Why Are Two People Needed?

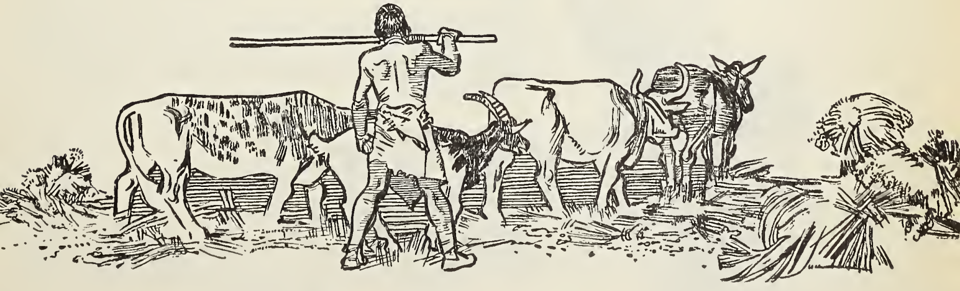
to spread the dry plants over a hard piece of ground. Cattle were driven round and round over the plants. Their feet beat out the grain, which slipped to the bottom. Then the straw was lifted off; and the grain was swept up into flat baskets. Such work is called *threshing*.

Cutting Grain with a Sickle

Another way was for a man to put his own strong arms to work instead of using oxen. First the dry plants were spread out on the hard ground. Then the man took two pieces of wood fastened together by a strong piece of leather. Such a tool is called a *flail*. He held one piece in his hands and pounded the grain with the other piece. This was hard work indeed. But it separated the seeds from the straw very well.

The grain in the flat baskets was full of dust and dirt. So the farmer shook a basket from side to side and up and down where the wind could strike it. The wind blew the dust away, but left the seeds. This work is called *winnowing*.

Threshing Grain on a Threshing Floor. The Cattle Beat the Grain Out from the Straw with Their Feet



Threshing with a Flail. The Flail Beats the Grain Out; Then the Straw Is Raked Up. Only the Grain Remains

Then the grain was clean. But have you ever tried to chew the hard seeds of wheat or rye? It is not easy to do.

So some primitive woman decided to crush them. She poured some seeds into a round, hollow stone, or *mortar*. She chose another round stone that would fit nicely into the hollow. This second stone she kept turning round and round. The grain was crushed between the two.

What the woman then had was a kind of coarse meal, somewhat like corn meal. She put some water with it, mixed in a little fat and salt, and formed it into flat cakes. These she set near the fire to bake. In this way she made the world's first bread, though it did not look like ours today.

After this, people were more certain than ever before to have enough food. To be sure, they had to work hard at agriculture, but it was not much harder than the wandering around in the old days had been. And in this way work did more good. Never since has there been as much hunger in the world.

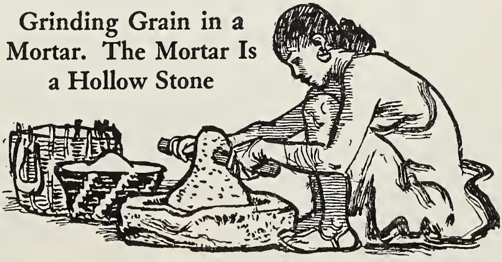
Winnowing Grain in a Basket. The Dust and Chaff (Pieces of Straw) Are Blown Away by the Wind

Farmers have to settle down. Farmers soon found that they could not go on wandering about as men had always done before. If a man went far away after he had planted some grain, bad things were likely to happen. Animals might come and eat the young growing plants. Or some other man might come by and reap the crop. When the man who had done the planting returned, he would find nothing left but straw. All his hard work would have been wasted.

The only thing for him to do was to settle down near by. Farmers could not be nomads. They had to stay in one place. They had to get up at sunrise and work until dark. They had to learn to work regularly every day. This was the first time man had ever lived a regular life. And most people have had to keep regular hours of work ever since.

If a family were going to live in one place for the rest of their lives, they wanted a better house. So the use of tents was given up. Buildings more like our houses were put up. These had doors and windows. To make such buildings the people used whatever materials they could get. If enough logs could be found, they were used. If not, mud or clay was made into bricks.

Men form larger groups. Many of the farmers in the river valleys soon found that it did not often rain. Water for the crops would have to come from the river. How could it be brought? Have you ever tried to sprinkle a large garden with water carried in pails? If so, perhaps you can imagine trying to water many fields that way. It could not be done.


Grinding Grain in a Mortar. The Mortar Is a Hollow Stone

Again someone saw a way out of this trouble. Large ditches could be dug from the river. Smaller ditches could then lead out to each man's fields. Such a plan for bringing water to crops is called *irrigation*. It is a good plan for dry countries.

Who should dig the ditches? Of course, each man would be willing to dig the small ditches for his own crops. But who should dig the larger ditches? Who should plan the size and where they should be? Should each man take as much water as he wanted? Or should all of them have an equal amount?

These were hard questions to answer. Yet the work was too great for each man to do alone. It would be necessary for many persons to work together. Somebody would have to be the leader and make the plans. The others would have to be good followers. All together they could do what no one of them could do alone.

This was another way in which men could not carry on the kind of life they wanted unless they were willing to co-operate.

So men began to form groups much larger than the old hunting bands. Such a large group was a *tribe*. Its leader was probably the wisest and strongest headman of all the bands that joined together. He was called the chief. And so a step forward was made in managing group life. This managing of group life is called *government*.

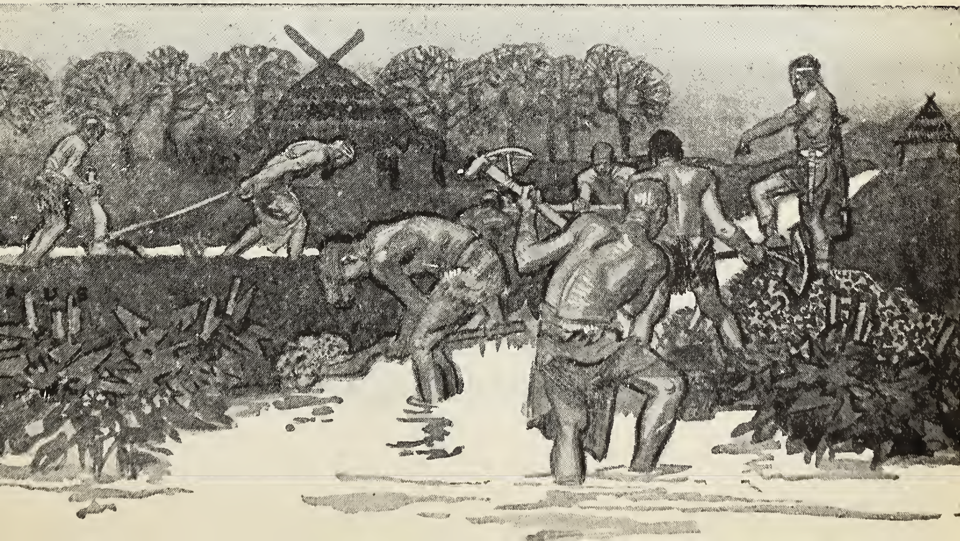
There was another reason why men needed to settle down near one another. They had to be able to help one another in case of attack by an enemy. For now that they had fields of growing grain, fruit trees, houses, and ditches that had taken much work to get started, somebody else would like to own those things, too. Some enemy tribe would rather take them away from this tribe than go to the work of starting its own. If the men of the first tribe were to join together and fight off attacks, they had to form larger and stronger groups. And so more and more tribes began to come together into one group, or to *unite*.

One thing came from settling down, that nobody had looked for. Now that men and women lived near one another as neighbors, they often talked together. They talked about all their different jobs. One man told about how he did his work; then another one told his way.

They exchanged ideas. If one man thought of a better plan, all the others soon heard about it. They changed over to his way of doing. Change became more usual; there was more progress. That is always true when men live close to their neighbors in large groups.

Private property begins. Suppose that someone should ask, "Do you own any property?" You might say: "Yes, I own some books, some small toys, a sled, and a scooter. Of course I own my clothes too."

An Irrigated Orchard. Why Would Many Men Be Needed to Dig an Irrigation Ditch?



"Do your parents own any property?" "Yes, they own our house, the things that are in it, our automobile, and the garage."

All the things that belong only to you or your own family are your *private property.*

But there is another kind of property. Who owns the park in your city? the library building? the city hall? the post office? the streets and roads? You might answer: "Those things belong to all of us together. All the citizens own them."

That is true; therefore such things are called *public property.*

Now let us go back to the story of the New Stone Age. What was private property and what was public property then?

To begin with, anything that a man (or a woman) made all by himself (or herself) was, of course, private property. The arrowheads that a man chipped or ground, the animals that he alone killed, the fur robe that a woman sewed—all these were his or her own. They were private property. Anyone else in the tribe who wanted to use them had to ask the owner.

But nobody yet had thought of land as private property. Land didn't "belong" to anybody in those days. One tribe might claim the right to hunt in a certain part of the country—its "hunting ground." It would make war on any other tribe that tried to hunt there. But the tribe did not feel that it "owned" the land. The land was for all the members of the group to *use.*

Do you suppose that early man said to himself, "I do not *own* this land; so I need not take good care of it?" That is what many people seem to think today. If property is public property, they scatter bits of paper about. They write their names on the woodwork. They even break the street lights or panes of glass.

Early man was more careful. Even on public property that belonged to all the group, he did not do any harm if he could help it. He never cut down more wood than he needed for his fire or his house. He never shot more animals than his family needed to eat. He took good care of the canoes that the men all together had helped to build. In such ways he was a better citizen than many persons are today.

When early men first began to domesticate wild plants, each person made his little garden wherever he pleased. He did not say that he owned the land on which he made a garden; but his tribe agreed that the crop belonged to him. Thus the crop was private property while the land was still public property.

As the years went by, however, people's feelings about land began to change. One man had carried away the stones that were in his garden. He had built a wall around it. He had dug irrigation ditches to all parts of it. He had planted fruit trees that were just beginning to have fruit. If he made his garden in some other place next season, he could not cut his trees down and take them with him. He had worked so hard, in fact, that he felt as if part of himself had been put into each one of the fields he used.

Some other man had not carried away the stones in his own garden. He had not made a fence. He had dug no ditches and he had planted no trees.

Would it be fair for the second man to come and make his garden next season in the field that the first man had improved? The group decided that would not be fair. The group agreed to let a man *own* the land on which he had worked so hard. They allowed land to become private property. And it has been private property in most parts of the world ever since. That is true in our country now.

The use of slaves begins. Have you ever helped to take care of a cow? Or have you ever helped to plant a garden? If so, you know that such work is hard to do, day after day.

Primitive man had by this time found out how to do so many things that one family could not carry on all the different kinds of work that were known. One man could *plan* all the different kinds of work. But neither he nor all his family together could do as much as he would like to plan. The use of animals as *power* helped a great deal. But even that was not enough. How could men get more help?

Someone suggested an answer. It was to use the people who were taken prisoners in time of war. Always before, a tribe had killed the men of another tribe that they had beaten in war. Sometimes they had killed all the women and children too.

Now someone said: "Why do we not keep those persons alive when we capture them? We could make them work for us as our domesticated animals work. Men and women would make even better servants than animals do. They could learn kinds of work that the best-trained ox or horse can never learn. We could feed them and give them a place to sleep. If any of them tried to run away, we could whip them or tie them up. But we should keep for ourselves the crops that they raise."

That is the way in which the use of slaves began in the world. Agriculture and slavery went hand in hand; each depended on the other. You, of course, feel very sorry for the prisoners. But if they had not been made slaves, they would probably have been killed. Which is worse?

To Talk About

Why does pulling up weeds help other plants to grow?

Is agriculture carried on, in or near your community? What crops are raised? Are any plants raised now that did not always grow there?

Why do plants grow better on land that has been plowed?

What is the difference between whole-wheat bread and white bread?

Why do farmers have to work even more regularly than city people? Which is more often his own "boss"?

Should people be willing to follow a leader? Or should each one always want to be the leader himself? What kind of person should be chosen as leader?

How does choosing a leader help a group to keep order? Does keeping order depend on the leader alone?

Can you see any way in which keeping slaves might be bad for the master? Would he be likely to learn to control his temper? Are you a slave to a bad temper? Or are you master of your temper?

In what way did the group help a man to keep his private property safe?

To Do

If possible, bring a stalk of ripe grain to class. Show the parts that we use as food.

Can your class plant a small garden? This might be interesting if most of you have never done such a thing before.

Find out from a geography book how rice is grown today.

Find out what vitamins are in whole-wheat flour that are not in fine white flour.

Grind dried corn between two stones. Can you make fine corn meal of it?

Plan an irrigation system for your garden. Where should the ditches be dug? Where will the water come from?

Can your group learn to govern itself in its daily classroom life? It would be fun to try to manage a class trip to begin with. Does it take much planning? Is it easy to get everyone to live up to the rules that you have made?

Make a list of the public property in your community. Can your class help to improve the care of your nearest park? the care of your schoolhouse? How?

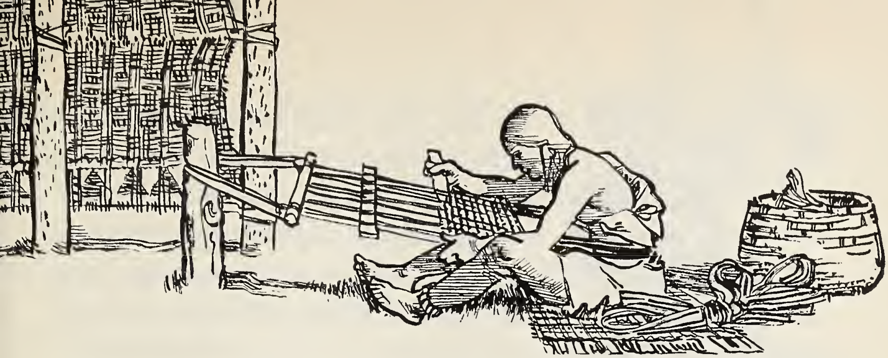
Weaving Gives More Comfortable Clothing and Furnishings

In his search for food, early man had learned to know all the plants. He had broken open their seed pods, to find out whether the seeds were good to eat. He had dug up the roots. He had split open the stalks.

He had found one kind of plant that he could handle very well, though it was not good to eat. It could be bent easily without breaking. This was a kind of reed, or tall grass, that grew along the edges of rivers and lakes.

Perhaps it was a woman who first tried twisting these reeds together, some going one way, and others crossing them. This is called *weaving*. She could use the mat that she made as covering for the dirt floor of her house. She could use it to make the side walls. She could sleep on it. She could put a line of mats across a small stream, and make a fish trap.

Then she tried something else. She gathered together the edges of a mat into a kind of bag. This was useful. So



Weaving a Mat of Rushes

then she wove a basket. If the edges were made strong enough, this basket would stand hard wear. She could fill it with fruit or seeds or nuts or fish. It was easier to carry such loads in a basket than in the hands. The basket could be used to store food too.

So women began to weave all kinds of baskets and mats. Their homes were better furnished than they had ever been before. Those women who liked to make beautiful things soon grew tired of plain weaving. They used colored grasses. If they could not find enough colored grass, they made dyes and colored what they had. Red dye could be made from the juice of berries. Brown could be made from bark or from roots. Black could be made from burned bones.

Then the women began to weave their baskets in designs, or patterns, as well as in colors. Their designs were often taken from nature—from such things as the skin of a snake's back, the shapes of leaves and flowers, from unrolling ferns, from spiders' webs, or the shape of a person's body. The picture on page 64 shows you some of the beautiful and difficult designs made by such "nature peoples."

All the weaving about which you have been reading so far was done with rather coarse and heavy materials. But in their search among the plants, people had found some with very fine threads, or fibers in the stalks. The fibers

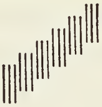
Woven Baskets

of the flax plant were especially soft and fine. (Can you find such a stalk to bring to class?)

How could such thin threads be used? Perhaps some woman sat one day long ago, thinking about that question. As she thought, she may have twisted some of the fibers in her fingers.

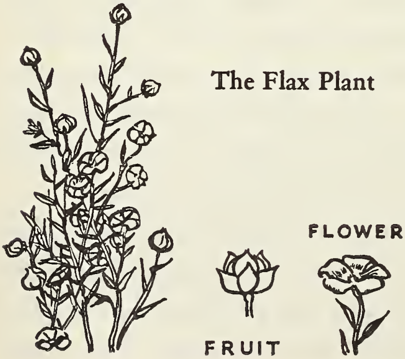
Then she noticed that the twisted thread was very strong; it could stand a hard pull. Yet it was soft enough to bend in any shape. It would furnish excellent material to weave with! It would make a soft and fine thread.

The chief trouble was that the fibers were short. How could she make them into a thread that would be long enough to weave? She tried arranging a bundle of fibers like this:



Then she twisted them together. She found that she could make as long a thread as she wanted.

So she twisted yards and yards of fibers into good, strong thread. Today we call that work *spinning*. After she had as much thread as she needed, she could weave different threads together. She then had the world's first woven cloth, or *textile*. It was soft and comfortable. It could be washed when it



The Flax Plant

FLOWER

FRUIT

was dirty. It could be cut and sewed easily. Mankind could have more comfortable clothing than ever before.

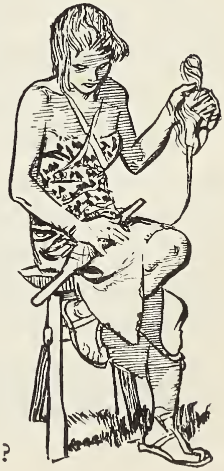
Other kinds of fibers besides flax could be used. The wool of sheep could be pulled out into a thread. The fruit of the cotton plant could be used in the same way. As much material could be found as was needed.

But twisting so many threads was hard on the fingers. Women's hands grew very tired. Could any easier and better way of spinning be found? Someone tried twisting the fibers around a long, smooth, slender stick, or *spindle*. That worked very well. The bundle of fibers was held in the left hand, and the spindle was rolled on the spinner's leg.

How could the thread be kept straight after it was spun? How could it be kept out of the way of the spindle? A stone was tied to the end. Its weight kept the thread straight and helped in the twisting.

Weaving with spun threads was much harder and finer work than weaving baskets. How could the up-and-down threads be held firm? How could a crossway thread be passed through them?

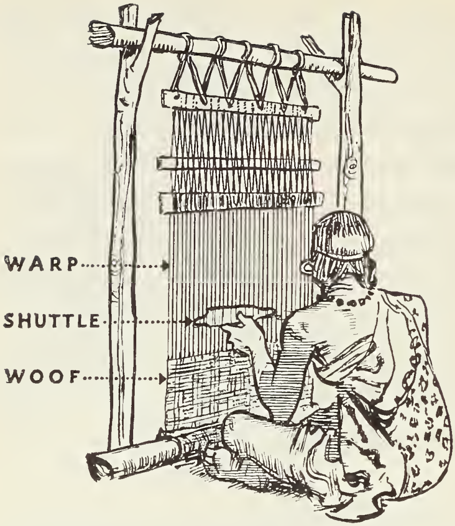
Someone solved that problem too. He (or she) made a frame like the one on page 66. This is called a *loom*. You can see that the up-and-down threads (the *warp* threads) are held firmly at both top and bottom. The crossway thread (the *woof*) can be woven in and out by means of a long wooden needle. This



This Is the Way the Fibers Were Twisted around the Spindle. What Does the Woman Hold in Her Left Hand?

needle is called a *shuttle*. It is hollow; extra thread is inside it.

Ordinary weaving soon grew tiresome to the primitive weavers. They did not want always to make plain cloth. So they tried out all kinds of stitches. Sometimes they would take in two threads at once and make a knot, such as the drawing below shows.



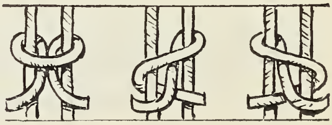
Primitive Man's Loom for Weaving

On the next row they could do the same thing again or they could do something still different. In this way they could weave all kinds of designs into the cloth. Some of the patterns used by primitive men are so difficult that we wonder how anyone could ever have planned them.

As you look back over the stories in this book you might ask yourself: "Could I have found out all these things? Could I have done as well as primitive man did?" Most of us would have to answer, "No!"

Yet sometimes we feel like laughing at primitive people. Because they did not have automobiles and radios, we sometimes feel that they were not so "smart" as we are. But if we today had no more to work with than they had, we might not be able to do even as well as they did.

These Are Some of the Knots
That Are Used in Weaving



Baskets held food better than anything else that people had had before. But rats and mice can chew through baskets and get at the grain stored in them. Water, oil, and wine cannot be kept in most kinds of baskets at all.

We do not know who first had the idea of making bowls or jars of clay. Nor do we know how that person happened to think of such a plan. Perhaps someone playing with wet clay shaped a bowl and then went away. Perhaps several days later he (or she) noticed that the sun had dried the bowl quite hard. Later yet, after a rain, this person may have seen that his bowl held water. The water could not run out of it.

Or some woman may have decided to line a basket with clay. Then she could carry more water than in a shell or a gourd or in the skull of an animal. In both of these cases, however, the clay could be broken or cracked very easily after it was dry.

Then one day a woman may have dropped her clay bowl into the fire while she was cooking. She could not get it out without burning her fingers; so she left it there. Days later, perhaps, she may have come across her bowl in the ashes. To her surprise, it was almost as hard as stone. It did not break when she set it down; and it held water better than ever.

So at once she made jars, pots, and bowls of clay and baked them all. They were good to store grain in. (Why?)

Then she learned something else. She happened to drop a hot stone into a jar of water one day. The water began to boil fiercely. There was a piece of meat in the jar. She could not get the meat out; so she had to leave it there.

Boiling Food in a Pottery Bowl

After a while the stone cooled and the water stopped boiling. The woman took her piece of meat out, to see whether it had been harmed. It was more tender than any meat she had ever eaten before! It tasted different, too. Then she tasted the water. It had become soup, and it also was good.

She had found a new way of preparing food. Don't you suppose that her family was delighted? Now her husband could come home and ask, "What are we going to have for dinner today?" Before, he had always known that it was going to be roast meat.

Whenever the woman needed to make a very large bowl or jar, she found it was hard to build up the rounded sides. She tried many different plans, but they all failed.

So she tried a plan that she had already used in making baskets. She made a long rope of clay (somewhat like a rope of grass). Then she coiled the rope round and round to make a bowl. This method worked very well.

Some of the bowls made by the coiling method were left with the rope form showing on the outside. The inside was smoothed over with a stone or a shell. Sometimes the outside was smoothed, too. Then the whole bowl was baked in the fire.

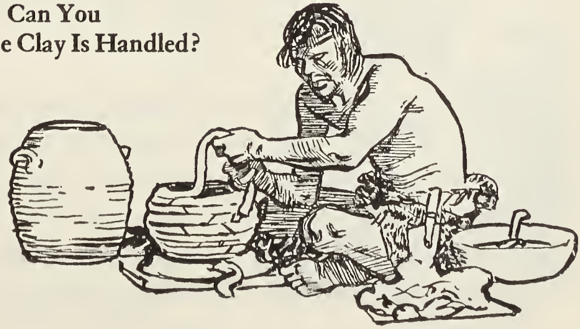
You may be sure that the women who liked art soon wanted to decorate their jars. Sometimes they used gray clay, sometimes red clay, sometimes brown. Sometimes they mixed burned bones or lampblack with the clay to make it black.

They also tried out different shapes. Some articles they made tall; some, short. Some had long, thin necks; some were short and wide. Some were turned back to make a place to pour out of. Some were set on legs. Some had handles of different shapes.

Some artists scratched designs into the wet clay before putting the articles to bake near the fire. Others painted their designs in many colors. They did not like to make any two articles that were exactly alike. It was more fun always to try something new.

Have you ever tried to make a large clay bowl? If so, you found that it was hard to see all sides of it. You could not turn it around, because the clay was too soft. If you wanted to find out whether the shape was true all the way round, you had to get up and walk to the opposite side.

Making a Clay Jar by
the Coil Process. Can You
Show How the Clay Is Handled?



Primitive potters met this problem too. (Potters are people who make things from clay.) They learned to use a tray when they were making their clay bowls. They could turn the tray around when they needed to see the other side of the bowl.

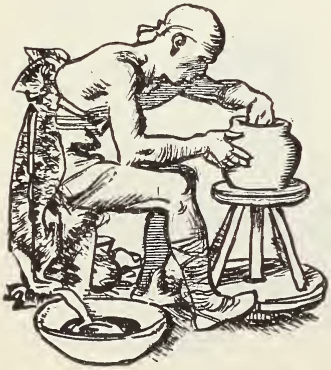
Again someone saw how to improve things. He put his tray on a little wheel. This is called a *potter's wheel.* It is still in use by the artists who make handmade *pottery* (articles of baked clay).

Not all tribes everywhere learned to work in clay. Some still went on using only hollow stones, gourds, skulls of animals, and carved wood.

It is a good thing for us, however, that so many tribes learned to make pottery. If they had not, we should not know nearly so much as we do, about how people lived long ago. For pottery lasts longer than any other material except stone. Wood crumbles; cloth rots away; even leather wears out. Pottery may be broken, but the broken pieces remain year after year.

So scientists today dig about in the places where early man lived. They find many small pieces of bowls and jars. Some of these can be fitted together into a perfect whole. Then we can see for ourselves an article that was made by men living thousands of years ago. Have you ever seen any such articles in a museum?

Learning to plan ahead. In the earliest days people did very little planning for the days



Using a Potter's Wheel. Can You Explain How the Potter Turns the Bowl Around as He Works on It?

to come. When they found food, they ate it all at once. Then they searched for more. When they killed a large animal, they feasted for many days. They thought little about saving anything for the hungry season that might lie ahead.

But after plants and animals were domesticated, things were different. A man had to plan ahead. He had to decide carefully the route, or path, by which to drive his herds from place to place. Unless there were wells all along the way, his cattle might die of thirst.

A farmer had to plan how much grain he would plant. He had to be willing to wait until his crop was ripe. Many days of hard work he had to put in, in order that grain could be gathered later. He was learning to think about years to come.

A man even planted fruit trees, though he knew that he would have to wait years for them to bear fruit. Perhaps he himself would never gather the fruit. But he thought of the help it would be to his children and his grandchildren.

The making of pottery helped men to plan for the time that was to come. A farmer could put his grain into large jars, and could feel quite certain that it would last through the winter. He could be sure that the part he was saving for seed next year would not be destroyed by rats and mice. He found that it paid to look ahead in this manner.

He could store oil and wine in his jars, too; then he could have enough for all the year. Those were some of his chief foods.

In these ways man learned to make wise use of what he had. He learned not to eat up within a few weeks everything that he raised, and then go hungry the rest of the season. We say that he learned *thrift*. This habit of thrift, of careful planning for the future, was one reason why progress was so much more rapid in later years.

How Can Man Tell "How Many"?

In the earliest days people had felt little need to count. They had very few belongings. Any man could tell by looking at a stone ax whether it was one that he had made. He could tell by the "looks"; so he did not need to count his axes. A woman could tell by the looks of a bowl whether she had made it; she did not need to count her pots and pans.

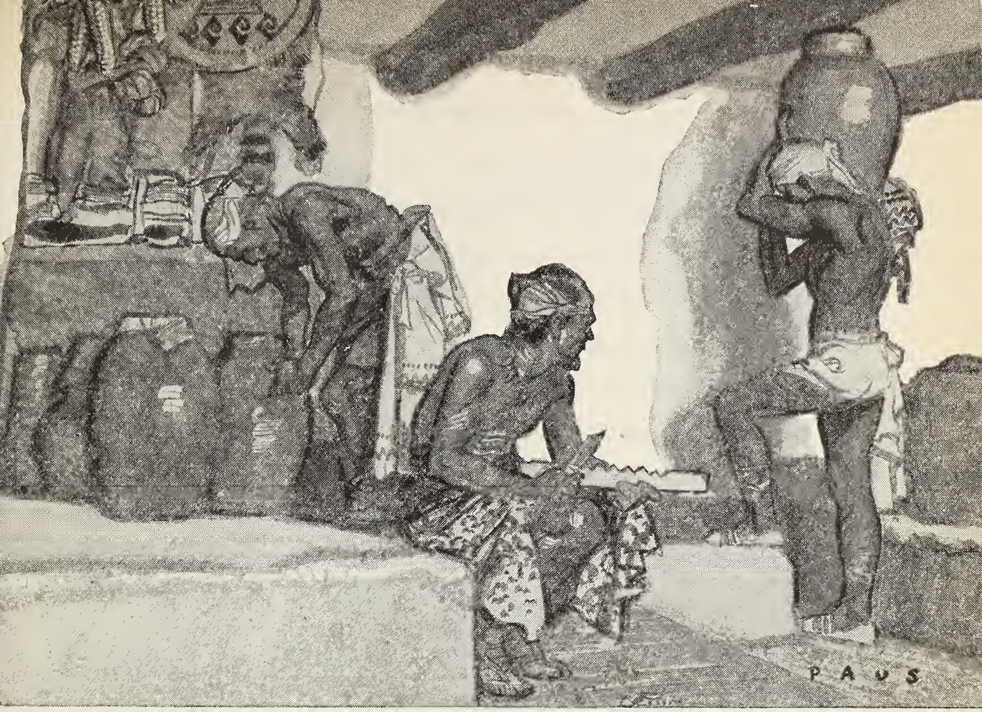
Even after cattle were domesticated, a man could tell all those that belonged in his herd. He knew them as you know the members of your family. He did not need to count to see whether one was missing—any more than your mother needs to count in order to find out whether one of her children is missing.

But when man began to store up goods, he had to know "how many." How many jars of wheat did he have? How many bowls of wine? How many days would it take two slaves to plow his fields?

Some tribes never got any farther than counting two or three. They had no words for numbers larger than that; they called them all some such word as "many."

Others counted on their fingers; that is why our numbers today go by tens. (Have you ever seen children today counting on their fingers?) Other men counted by using their toes too. That is why we have such a word as a *score* (meaning twenty). Still others counted by twos. That is why we use such words as "a couple" or "a pair."

Have you ever watched your baby sister or brother learning to count? It is not easy to learn the names of all the numbers. It is not easy to see that *three* does not mean just these special three pennies or three apples or three children. It means any grouping of any objects that



In a Storehouse. What Is the Man Doing with His Knife?

make up just that number. For *number* is only an *idea*, and counting is one way of dealing with numbers. It took mankind many hundreds of years, or many *centuries*, to learn how to count.

How could a person remember the number of jars he had, even after he succeeded in counting them? One of the earliest ways was to cut notches into a piece of wood. Each cut stood for one object. (See the picture above.) The Indians in Peru used knots in pieces of rope. A single knot stood for ten; a double knot stood for one hundred; three knots stood for a thousand.

Such methods as these were men's earliest ways of keeping count. Men were learning how to use number. They were also learning how to keep records (or to do "bookkeeping").

To Talk About

How many things in your own home would you have to go without if no one had ever found out how to do weaving?

Is there any clay near your home? What color is it?

What kinds of meat are usually boiled today? What kinds are usually roasted?

Have you ever read the story of "Ali Baba and the Forty Thieves"? For what were the jars used in the story?

In what ways does your family plan ahead for the winter? Do they ever plan many years ahead? In what ways?

Can you count by twos? by threes? by fives? by tens?

Do umpires in ball games still use their fingers in counting?

To Do

Ravel out a piece of cloth; notice that it is made of threads going two ways. Untwist each thread; notice that each is made of finer threads twisted together.

Weave a mat or a small blanket. Can you work a design into it? Can you make dyes of vegetable coloring matter? (The encyclopedia will help you to make a dye.)

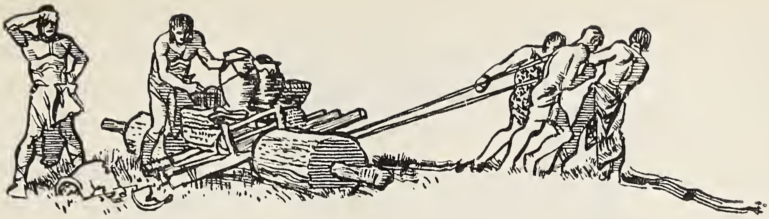
Draw designs using the shapes of leaves or flowers.

Find the knots on the back of a fine rug. Ask a man who sells rugs how many knots in each square inch his best rugs have.

Mold a bowl from clay and bake it.

If possible, go to a museum to see old pieces of pottery.

Decide upon some ways in which your class can practice thrift in the classroom.



Rollers and an Axle. What Has Happened to Part of the Load? Why?

Improving Ways to Move Goods

With so many belongings men felt quite rich. Now they often had to move heavy loads of grain and hides. It was hard to carry such things even with the help of travois and pack animals. Sleds also were used; they could be dragged along the ground, but to pull them was very difficult.

How was the answer to this problem found? We do not know. Perhaps one day a heavily loaded sled happened to pass over a log that was lying on the ground. The log may have rolled while the sled was on it. The man who was driving the oxen noticed how easily the load then moved.

So he had an idea. He would take several logs and place them in a row crossways in front of his heavy load. As fast as his sled passed over some of them, he would pick these up. He would drag them up in front and lay them down once more.

Such "rollers" made the moving of heavy goods much easier. You may have seen them used even today in the moving of houses.

Another wonderful invention: the wheel. Another man then thought of another way to improve the moving of goods. Why not cut a log into slices? Why not use these slices instead of the whole log? He placed one slice at each side of his load. He fastened the two slices together with a bar through a hole in the center of each. On this bar, or *axle*, he balanced the bundles and bags that he had to carry.

The load did not sit very steady, however. So still another inventor fastened the axle tightly to the load. His "wheel" turned around on the steady axle. The picture on page 77 shows you how it looked. Each cart had two of these huge round wheels. Perhaps you have also seen pictures of such carts in your geography book, for they are used even today in some countries. But you can see that they must be very heavy. An ox could pull a larger load if the wheels of his cart did not weigh so much. So men began to cut away part of the wood; the parts that were left were called *spokes*.

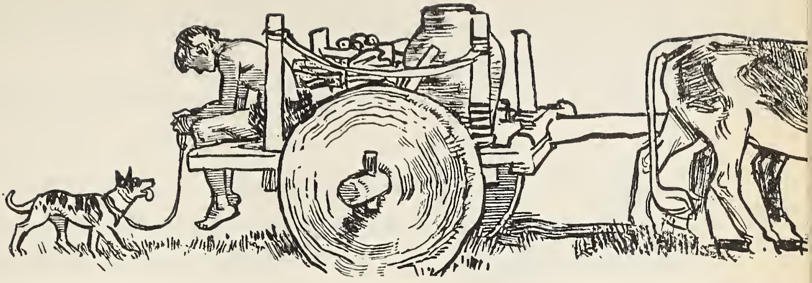
That is the way that the wheel came into use. It proved to be a wonderful invention. With the help of two wheels on a cart, a load could be moved that many oxen could never have dragged on a sled.

People found other uses too for the new invention. You have already found that the wheel was used in making a windlass and in turning a tray for a potter (pp. 47, 70). Today not a factory in the world could go on running if all its wheels should be suddenly taken away.

Better ways to move goods by water. On page 26 you read about dugout canoes and rafts. For many centuries these were the only ways to move goods across rivers or lakes. But they could not be used on large seas or on the ocean, without great danger.

Besides, they had to be shoved with a pole or pushed with a paddle. That was very hard work indeed.

Perhaps one day a man was floating downstream in his dugout. The stream carried his canoe; he did not need to



A Two-Wheeled Cart with Solid Wooden Wheels. How Does the Floor of the Cart Rest on the Axle?

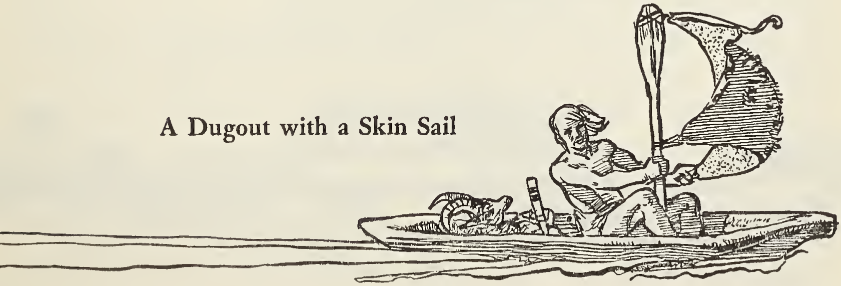
use his paddle. So he took it out of the water and held it up in the air.

He soon noticed that the wind struck the broad part of the paddle. It helped to push the canoe faster. So after that, he often held his paddle up in the air.

When such a beginning had once been made, other men soon made other improvements. One fastened the skin of an animal to his paddle. It caught much more wind than the blade alone. Another put a frame around the skin, to keep it spread out. If he did not do that, it was likely to fold up and catch little of the wind. This was the first *sail.*

Holding up a paddle with a skin sail fastened to it was very hard on the arms. So someone took a tall pole and tied it firmly to the bottom of his dugout. This was a *mast.*

A Dugout with a Skin Sail



The sail was then fastened to the mast. That is how the world's first sailing ship came to be built.

Other men later found ways to improve the sailing ship. The body, or *hull,* was made of boards. Then a much larger ship could be built than from a single log. It would carry more goods than many carts could carry on land. Sails of cloth took the place of skins; they were easier to handle. Sometimes two masts were used or even more.

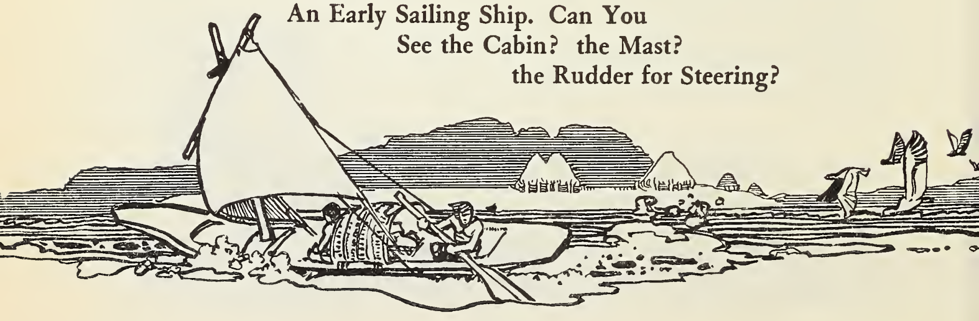
But for many centuries (until the invention of steamships) no change was made in the *kind* of ship used. All that men did was to improve the sailing ship still further.

Some tribes never learned to sail; most of the Indians of America did not. But tribes in Africa and Asia and on the islands of the seas became good sailors.

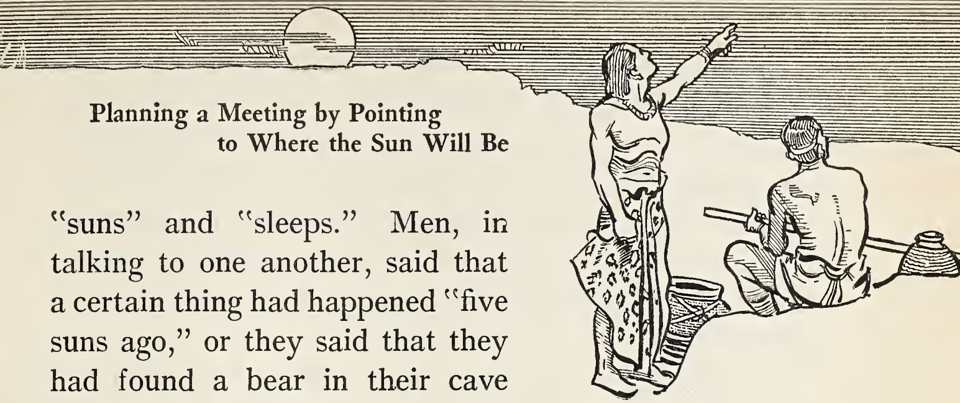
The Need for Learning to Tell Time

Early in the Old Stone Age, men had learned to live as nature made them live. They could not find food while it was dark. So they got the habit of sleeping at night, and wandering about during the day. The earth decided this matter for them; they did not decide it for themselves.

Therefore it was necessary to have words for "day" and "night." The words most often used for these ideas were



An Early Sailing Ship. Can You See the Cabin? the Mast? the Rudder for Steering?



Planning a Meeting by Pointing to Where the Sun Will Be

"suns" and "sleeps." Men, in talking to one another, said that a certain thing had happened "five suns ago," or they said that they had found a bear in their cave "three sleeps ago." These were the earliest *time words*. Others were "sunrise," "sunset," "midday."

If one wanted to speak of any other time of day, he did so by pointing to a certain place in the sky. "I will meet you when the sun is *there*."

Early man soon learned to expect that the sun would rise every morning and set every night. He learned that *nature works regularly*. Another regular change was in the looks of the moon. For a time it would be small and pointed (the new moon). Then it would be a halfmoon; then three-quarters full; then a full moon. So men very easily fell into the habit of counting longer time periods by "moons."

To give each moon a name, they chose something that took place in nature during that time. There was a "moon of falling leaves," a "moon of the maple sap," a "moon of strawberries," and so on.

Still longer time periods were known, too. These came as regularly as the days and the moons. One of them was the "time of cold"; one, the "time of heat"; one was the "time of planting"; one, the "time of harvest." Primitive men knew the seasons.

Telling Time by Changes in the Moon

They had to watch the seasons very carefully after they began to domesticate animals and plants. For example, lambs are always born in the spring. They must be watched very closely; for if they get cold and wet, they will die. And men had to know just when to plant their crops. The time must not be too early, or the seeds would not sprout. It must not be too late, or the crops would not ripen before the frost came.

Primitive men therefore knew much more about the sun and the seasons than most of us do. If you had no calendar, could you tell just when it would be safe to plant peas and beans? Or would you plant them on the first warm day that came along?

Do you know in what part of the sky to look for the sun at ten o'clock in the morning in October? at four o'clock in the afternoon in June? Probably not. But primitive men did know.

Days, moons, and the seasons were the earliest periods of time that they learned to count. About weeks and years they knew nothing. They had no need yet for such measures of time.

The Kind of Education That Primitive Children Had

When children of today read about primitive life, they sometimes say: "Wouldn't it be fun to live that way! No lessons to study, no lawns to mow, no furniture to dust, few dishes to wash! We could spend the whole day playing in the woods. Life would be very easy."

But if you think that, you are very wrong indeed. Should you like to go hungry whenever your father was not able to shoot a deer? In winter should you like to have only a little clothing, and that clothing made from skins? Should you like to sleep on the hard ground, with only the skins of animals for a bed? Should you like to eat the same kind of food day after day?

If you had lived in those days, you would have had to go to work very early in life. For everyone had to help to earn his own living.

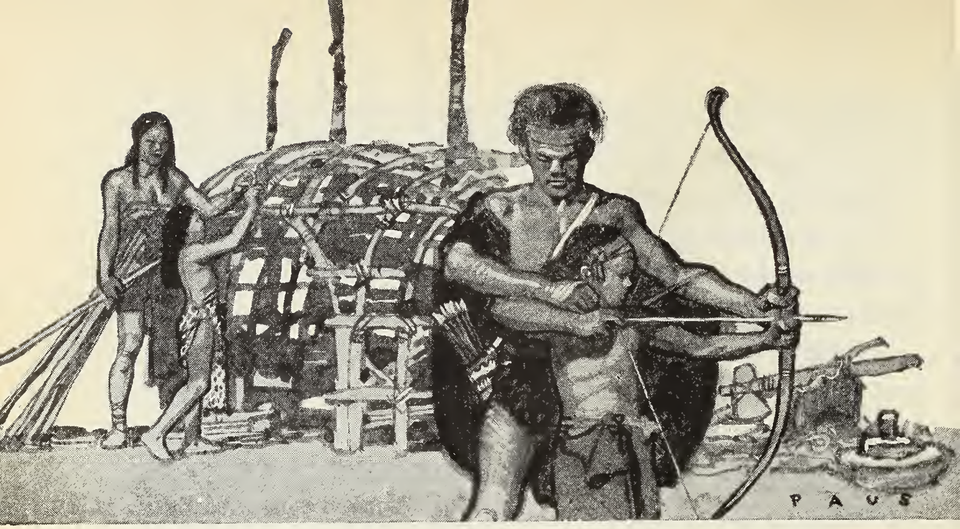
The children did not go to school, it is true. But they had as many things to learn as you have. All day long the boys went about with their father. They had to learn how to follow game. They had to know just where to strike each animal in order to kill it. They had to practice with the bow and arrow and the spear. If they were lazy or did not try to shoot straight, they did not need to be whipped. Their punishment was that they went hungry.

The boys had to learn all the kinds of work that their fathers needed to do. They chipped arrowheads and spearheads. They fastened handles to weapons. They made bows and stone dishes. They skinned animals. They even helped to fight the enemy.

They plowed, sowed seed, reaped with a sickle, and threshed with a flail. They drove large herds of cattle and flocks of sheep. They fought off wild animals from the cattle and sheep. It took many, many years for a father to teach his son all these things.

If a boy did not learn them, he could not keep himself alive when he was grown up. He and his family would starve. If a boy's father died, the boy had to join some other man's children and follow their father. Of course children in those days had great respect for their parents.

A girl had to learn as many tasks as her brother. She had to learn how to cut up the bodies of many different kinds of animals. She had to know how to make use of every part—even the bones and the brains. She had to



Primitive Children Learn from Their Parents

sew skin clothing with a bone needle, using sinew or bark for thread.

She had to spin and to weave clothing. She had to mold and bake pots and bowls. She had to weave mats and fish traps. She had to grind grain between two stones and bake cakes in the coals. She had to hoe in the fields. She had to take care of babies and sick people.

It took a girl many years to learn all these things from her mother. And if the mother died, the girl had to learn from some other woman. Children in those days spent much more time with their parents than you do.

There were also many customs and ways of behaving to be learned in each tribe. To take part in the dances and plays, all the long speeches had to be learned "by heart." Not one word could be changed. Some primitive people had wonderful memories. Do you think it would be easy to learn such long speeches by heart?

You can see that primitive children were able to do many things that you cannot do. They were "educated" even though they did not know how to read and write. For education means other things besides going to school.

Did the children have to learn good manners, as you do? You may never have thought about primitive men as having good manners. But they had; and their children had to obey the rules very strictly indeed. Their rules about manners were much more strict than ours. Any grown person in the tribe would speak very sharply to a child who was not doing "the right thing."

There were rules about where a child must sit if grown people were present. He had to wear his hair in a certain way. He had to use certain titles in speaking to all grown-ups. It took years of training to learn all this. And there was not one set of manners "for company" while other habits would do for the family. Good manners had to be used every day.

What happened to anyone who would not obey the customs of the tribe? The usual punishment was to laugh at him. Have all your classmates ever made fun of you? If so, you know that it is very hard to bear. Usually the person in the primitive group was glad to change his ways.

If, however, he still would not follow the custom, he was treated very severely. He was driven out of the tribe. He had to go away and live by himself. In most cases that meant that he would soon die. One person alone could not fight the wild animals or the enemy tribes. So there was little trouble about how to control the members of the group.

Perhaps you once thought that primitive people were very free. Now you know that they were controlled even more strictly than people of today. Strict control was the only way to keep order. And if the tribe could not keep order, it would be beaten by another tribe. The members would then be killed or made slaves. Keeping order was more important to them than freedom for each person.

To Talk About

Find a large picture of a wheel. Which part is the axle? the spokes? the rim? the tire?

In what way is a caterpillar tractor of today somewhat like the rollers in the story?

Why could rafts be used only on lakes or when going downstream on a river? What would primitive man have to use if he wanted to go upstream?

Are all days in the year the same length?

What other things, besides those mentioned in the story, can you tell that happen regularly in nature?

When do people plant the spring crops in your part of the country? When do they harvest?

What kinds of work are boys of today taught by their fathers? What kinds of work are girls taught by their mothers?

How can people be "educated" who have never gone to school?

What punishments are given today to people who will not do what the rest have agreed to do?

Why did primitive men need order even more than they needed freedom? Why is it hard to keep order in a large group?

To Do

Make a list of things in your own home that use some kind of wheel when they work.

Find out whether any goods are moved by water within a hundred miles of your home.

Find out the length of the longest day in the year in your part of the country; of the shortest day. (The nearest library or the newspaper may be able to help you.)

Keep a record of the changes in the moon for a month.

Report to the class one kind of work which you have learned from your father or mother.

Perhaps your class might like to decide on one or two ways in which your own manners might be improved.

Perhaps your class might like to try keeping order in the room with the members themselves making the rules and deciding on the punishments.

What We Call "Civilization" Begins

You have now been following the story of man's advance for a long time. He has made much progress. During those thousands of years he has learned to live in safety and comfort.

Can those people of long ago be called "civilized"? Just what is the difference between people whom we call civilized and other people whom we call not civilized (or uncivilized)? What is civilization?

Those are very hard questions to answer. Usually today we use two tests in deciding about any people. Those two tests are: Did they know how to use metals? Did they keep written records?

If the answers are "Yes," then the people are called civilized. If not, we say that they are only partly civilized or else that they are uncivilized.

The Use of Metals Makes Many Kinds of Work Easier

The stone tools of the New Stone Age were good tools. But stone has one bad fault when it is used for weapons. It is likely to crack to pieces just when it is needed most. For example, just as a hunter brought his great stone ax down upon the skull of a bear, it might go to pieces in his hand.

What material could be found that would be better than stone?

Man already knew two metals: copper and gold. He had found little beads or chunks of these metals. They were in "free" form, or little lumps. Both were soft. Man liked their color; so he pounded them into rings and wires to wear as ornaments. Gold could not be used at all for making weapons. Copper might be used, but the edge of a copper ax could be easily bent.

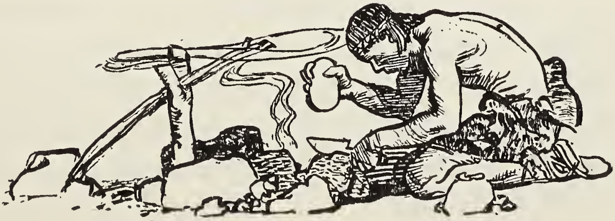
What can give a sharper edge than copper? We do not know how man found his answer to that question. Today we know that nine parts of copper and one part of tin melted together will make a hard metal. We call it bronze. But how did primitive man find that out, so that he could teach it to us?

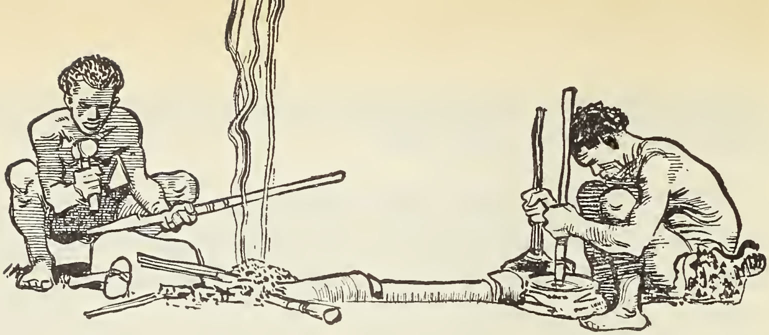
Copper and tin are often found side by side in the earth. Possibly primitive man may have thought that these were like any other stones or rocks. Possibly he made a circle of them and built his fire inside it.

Then a strange thing happened. The heat from the fire melted little beads of metal from the "stones." The beads of copper and tin ran together. When they cooled, he may have played with them for a while. He noticed that they felt very hard. So he pounded them with his stone ax. They were hard indeed! They could be pounded to a thin edge, which would hold its sharpness for a long time. What a splendid material for tools and weapons!

Thus man learned to make bronze. In order to get the materials that he needed, he had to search far and wide. To get copper he went from Egypt along the Mediterranean

A Man Finds Beads of Metal
on What He Thought Were Only Stones by His Fire





This Negro Man Is Sharpening the Iron Point of His Spear. The Boy at the Right Is Blowing the Bellows for Him

Sea as far as Spain. To get tin he even sailed to the faraway British Isles.

By no means all of the primitive tribes in the world learned to use bronze. Most American Indian tribes did not. They, of course, continued to use stone and wood. But the tribes that had bronze weapons could win in war against tribes that did not have bronze. (Why?) So more and more people wanted to get it. But there never was all that was wanted anywhere. The ways of making it were never very good. A great deal of work was needed for a very little bronze.

Bronze is still in use today. Do you know of any things that are made of it?

What can give a sharper edge than bronze? For many centuries tribes were satisfied with bronze tools and weapons. Perhaps you may ask, "Why didn't they try the use of iron?" For iron is still harder than bronze.

Iron, however, is very difficult to work with. It is not found "free" in lumps. The iron is mixed with rock; we call this *ore*. The only way to get the iron out is to crush the rock and then heat it very hot. This melts the iron but not the rock. The iron runs out. This kind of work is called *smelting*.

Two groups of people in different parts of the world at last discovered how to smelt iron. One lived in Asia. The other was a Negro group in Africa.

The chief trouble was to get a hot enough fire. These people knew that charcoal, which is a kind of partly burned wood, makes a much hotter fire than plain wood. So they heated the iron ore with charcoal in a closed-in place. This might be only a hole in the ground, or it might be a small hill built of clay. It was the world's first furnace, or *forge*. To make a draft of air, a leather bellows was used.

As the iron melted, it ran down to the bottom. There it was allowed to collect. Then a little door was opened, and the melted iron ran out in a stream. Little ditches in fine sand served as molds to catch it. The iron hardened in these molds. This was *cast iron*.

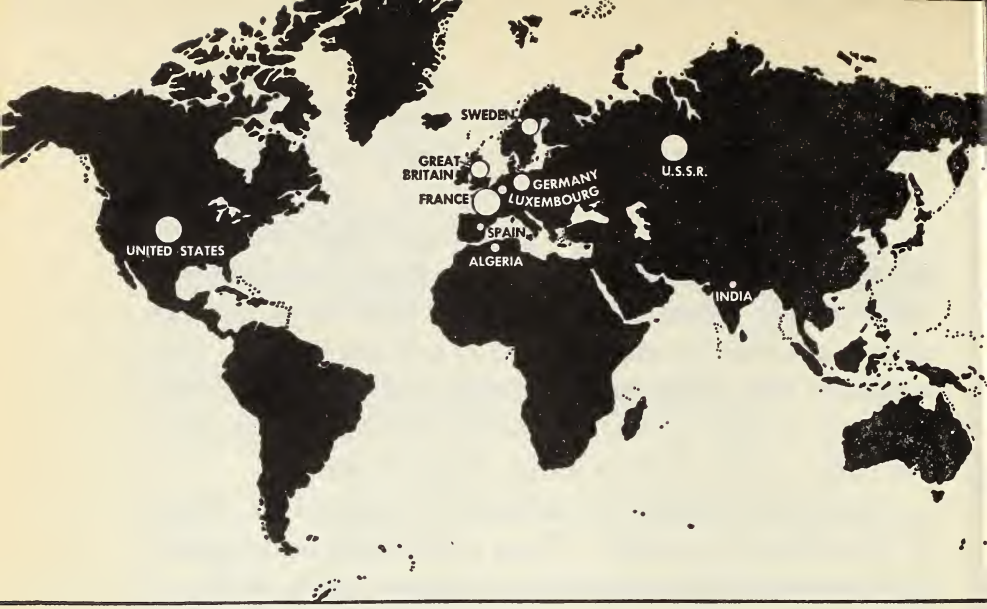
If a man wanted to make some articles of iron, he took a piece of this cast iron. He heated it again until it was red-hot. Red-hot iron is quite soft. He could pound it with his hammer into any shape that he wanted—a spearhead, an axhead, or a hoe. The iron was then called *wrought iron*.

Iron proved to be not only sharper but stronger than bronze. It would stand more strain and it would bear more weight. So the tribes which had iron weapons were able to beat the tribes which had only bronze weapons.

Then everybody began to search for iron. The search has been going on ever since. Those peoples who had none in their own country had to get it by trading.

Because there was so much labor needed in smelting and working iron, it cost a great deal. For many centuries it was more valuable than gold.

The United States has more iron in its mines than most other countries. That is one of the main reasons why it is the richest nation on the earth.



Supplies of Iron in Different Countries Today. The Size of the Circles Shows the Comparative Amounts Produced

How was the ore mined? Perhaps you have seen pictures of men working far down underground in a modern mine. You may think that such work is hard and dangerous. And so it is!

But mining in primitive ways was much more dangerous. The primitive miner had no lights to see by, except lamps of hollow stone filled with melted fat. He had no "cages" to carry him down into the mine; he had to climb down from one sharp rock to the next.

His only tools except his own hands were picks made of the horns of animals. What hard work it must have been to dig out the ore! There was no way to prop up the rocky roof as he worked farther and farther underground. The rock was likely to fall on him and crush him.

Mining was so hard and dangerous that nobody would do it of his own free will. It was carried on almost entirely by slaves. They had to be whipped to make them enter the mines. Let us close our eyes to such terrible scenes, and try to forget how the world's mining was carried on in the earliest days.

Nevertheless, if someone had not done such work, the world would never have learned to use iron. Look about your schoolroom. Try to find some article that was manufactured without the help of any iron tool or machine. You probably cannot find any.

"Swapping," or Trading, Makes Each Family's Life More Comfortable

The stories on pages 81–82 listed some of the many things that every family had to do. What a lot of jobs there were!

To make things worse, some families lived far away from where there was any stone. How could they get flint from which to chip their arrowheads? Others lived in river valleys far away from the woods. How could they get hickory to make their bows? Still others found no clay on the lands of their tribe. How could they get the materials from which to shape their jars and bowls? Can you name other kinds of goods that some of them may not have had?

Perhaps you can think of a plan for such people to use. You might suggest: "Let the families near the quarries give some of the flint that they do not need, in exchange for some river-valley wheat. Let the woodsmen exchange hickory boughs for colored clay. Let the herdsmen exchange wool for iron." By trading goods that they had too much of, each family could get other things that it needed.

All these are examples of people *exchanging goods*. Such direct trade is called *barter*.

You yourself have probably "swapped," or bartered, goods in this manner. Have the boys ever traded a ball for a bat? Each boy might like to tell of one thing he has bartered. Have the girls ever traded some doll's clothes for a set of dishes? Each girl might like to mention one thing she has bartered.

Some men begin to do only special kinds of work. There was another reason, too, why people began to trade. You know that a certain man or woman can often do some kinds of work better than other kinds. One woman can sew beautifully but she is not a good cook. One man can make a well-finished bench but he cannot manage animals.

It was the same in the days of primitive man. One man's moccasins always looked better than another man's. A second man's arrowheads always had a straighter edge than the others. A third man's dugout canoe was always smoother than the canoes made by the rest of the tribe.

Trade by Barter. Each Man Spreads

One woman's deerskins were always softer than those prepared by her neighbors. A second woman's baskets were more finely woven. A third woman's clay jars had a better shape.

After many years of comparing work, it was natural that a few persons should put all their time on the things that they could do very well. One man became arrow-maker for the tribe; one became a maker of canoes; one, a maker of bows. Some women became potters; some, workers in colored beads; some gathered all the plants that would cure sicknesses.

Each of these persons did only one special kind of work, but he did it for the whole village. He exchanged his work for the food and clothing that he needed. The rest of the people would take the things he made and in exchange would give him everything else he wanted. In this way a family could get more and better articles than it could hope to make for itself.

Out What He Wishes to Exchange

This doing of special kinds of work is called *specialization by trades*. It is not so much the exchange of goods as it is the exchange of work, or *services*. It always takes place when groups become civilized. Can you name some special kinds of trades that people carry on in your town?

What value has money? Barter was a much better plan than for each family to try to do everything for itself. Exchanging goods and services is really what all people are doing even today. Your father either raises or makes goods for other people or he exchanges work with other people. In return other people supply your family with the rest of the things you need.

You might like to stop for a few minutes and ask one another: "Does your father exchange *goods* that he has raised or produced? Or does he exchange his *services*?"

Perhaps one of you may say: "My father raises corn and hogs, but he does not exchange them for other goods. He does not exchange them for services either. He exchanges them only for money."

Let us see! It is true that he takes money for his goods. But is *money itself* the thing that he really wants? Or does he take money because it is so easy to get other things in exchange for money?

If you think that money itself is what he wants, try this: Try to imagine him on a desert island with many boxes and bags full of gold, silver, and paper money—but with nothing else. Could he eat it, or wear it, or make a house with it? You can easily see that money itself is worth very little. Money is useful only because it is easy to exchange for other things.

Strange kinds of money. If money itself is of little use, how did people ever come to use it? Let us find out.

Different Things That Have Been Used as Money

Suppose that some man of the New Stone Age had made more arrowheads than he needed but had no hickory wood to make a bow. He took his extra arrowheads and began to search through the village for someone who had extra hickory wood. He wanted to barter. But he might have to search for days before he found anyone. That would be a great waste of time.

Or a man might have caught more fish than his family could eat. At the same time he needed an animal's hide to make a sail for his dugout. So he took his extra fish and started out to find someone who had extra hides. He searched for two days and found no one. By that time his fish had spoiled.

It would have saved a great deal of time to have something that could be used as money. It would have made trade easier and faster.

So different groups of people began to use different things as money. Some of these things seem to us very queer; we would not think of them as money at all. Some used cattle; some used wheat. Some used bronze knives or whales' teeth. Others used dried fish or shells or little feathers. But all these things were used as money somewhere.

One thing may be very hard for you to remember. That is that our kind of money is worth very little in itself.

It is useful only because it can be exchanged for other things. For a long time we have spoken about people working "for money." We have forgotten that what they really want is the kind of things they can exchange the money for. *Money is useful only because it makes the exchange of goods and services easy.*

Why Mankind Needs Written Records

You read on page 36 that all groups of people everywhere made up some kind of language. That was probably the greatest invention that ever was made. With the help of language, men could tell one another their ideas.

But what could primitive people do if they wanted to send word to someone far away? Of course, they might choose a messenger and tell him what to say. But there might be no one to send.

Other ways might be used. You may have seen soldiers or Boy Scouts wigwagging with flags. The American Indians sometimes used smoke signals. A certain number of

Smoke Signals

Section of Fine Arts, Public Buildings Administration. Painting by Allan Thomas at Wabasha, Minnesota

Drum Signals

puffs meant "Danger." Another number meant "Good hunting here." African Negroes often used the beating of drums. One kind of beat meant "War"; another meant "The river is beginning to rise"; and so on.

You can see, however, that only certain kinds of news or messages could be sent in these ways. Many things could not be said at all.

Sending word by drawing pictures. The next step was to try to send a message by drawing a picture. At the top of page 98 is such a message in picture writing. Do you think you could read it? It says "Persians! Can you fly like a bird, hide yourself in the ground like a mouse, leap through swamps like a frog? If you cannot, then don't go to war with us. We will pierce you with arrows the moment you set foot in our country."

Another picture writing, which is a little easier to read, is at the bottom of page 98. It says: "Four hunters went on a three-day hunt. They shot an elephant and a deer. An elephant hurt one man. They all came back. Now we have plenty of food."

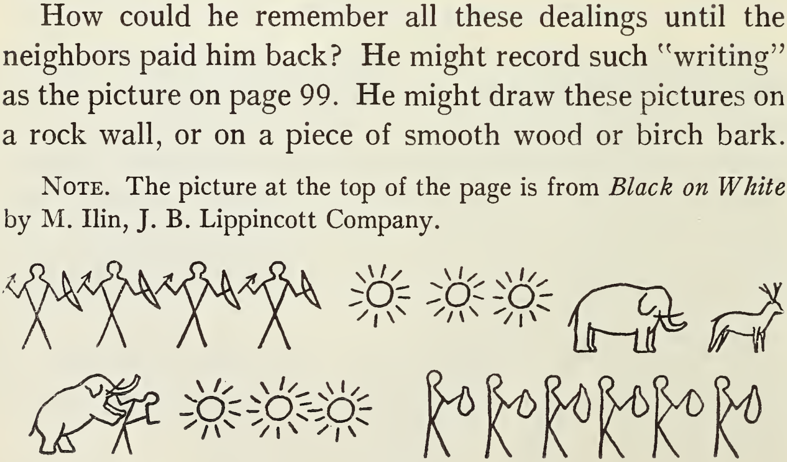
It might be fun for you to give your class a message in pictures. Can your classmates read what you are trying to say?

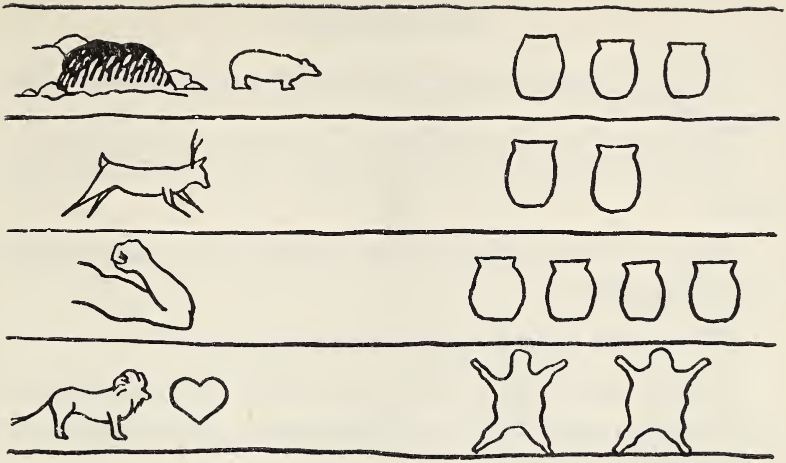
You can see that picture writing is hard to read. A person may read it wrong. Even today, however, we still use it at times. Some of our own picture writing is in the form of the skull and crossbones on medicine bottles, the hands or arrows pointing out directions, the signs of a boot in front of a shoemaker's shop, and the curve signs on highways.

Among primitive people there was another need for written records besides sending messages. That was to help a man remember his own business affairs. For example, suppose that a man had lent three jars of grain to a neighbor named Cave Bear. He had lent two jars to Running Deer, and four jars to Strong Arm. He had also let a man named Lion Heart have two cattle hides.

How could he remember all these dealings until the neighbors paid him back? He might record such "writing" as the picture on page 99. He might draw these pictures on a rock wall, or on a piece of smooth wood or birch bark.

Note. The picture at the top of the page is from *Black on White* by M. Ilin, J. B. Lippincott Company.





With the keeping of such written or drawn records real *history* began. Everything that had happened before that time had happened before the beginning of history. A syllable that means "before" is "pre." So everything that took place before written or drawn records were kept is called *prehistoric*, such as prehistoric building or prehistoric trade routes.

Picture writing, I think you will agree, is much better than no records at all. But it is not a very good way to send messages or to keep accounts. To draw a picture of an *object* is not hard. But how can you draw a picture of an *idea*, such as "pity," or of an action, such as "planning"?

Some better way was badly needed. None of the primitive people about whom you have been reading ever found one.

Now turn back to page 86. What two tests did you find there, by which to judge whether people were civilized? You have now read stories about the use of metals. You have read stories about some kinds of written records. Mankind must therefore be very near to civilization.

To Talk About

Which do you think is more useful to man today—iron or gold?

Why have many wars been fought over places that have iron?

Do you think barter is more trouble than using money, or less trouble?

What special kind of work can you do best?

Is there some special trade you think you would like to follow when you grow up? How does a person get ready to follow that trade?

For which person was picture writing easier—for the man who drew the picture or for the man who had to read it?

Why do we today know nothing about the names of any men who made these great discoveries?

Some people say that even today we are not completely civilized. What do they mean?

To Do

If possible, take a trip to a repair shop or a blacksmith shop, to see iron being worked.

Bring to class an article made of copper; one made of tin; one made of bronze; one made of cast iron; and one of wrought iron. Compare the looks and the "feel" of each.

Make a picture collection of work in modern mines.

Perhaps your class would like to have a Barter Day Each person brings something he does not need or want. They are all spread out on a table. Then the owners barter with one another.

A Boy Scout explains wigwagging.

UNIT TWO

STATES LEARN TO KEEP ORDER AMONG LARGE NUMBERS OF PEOPLE

★

The World's First Great Agricultural State

The First Great Business State

People Who Gave Us Ideas Rather than Things

One of the Oldest Civilizations on Earth

Other Early Peoples and States

The King of Persia Sends Out Messengers to His Provinces.
(See page 212)

The World's First Great Agricultural State

You have read, so far, about people who lived in many different parts of the earth. They all lived in much the same way.

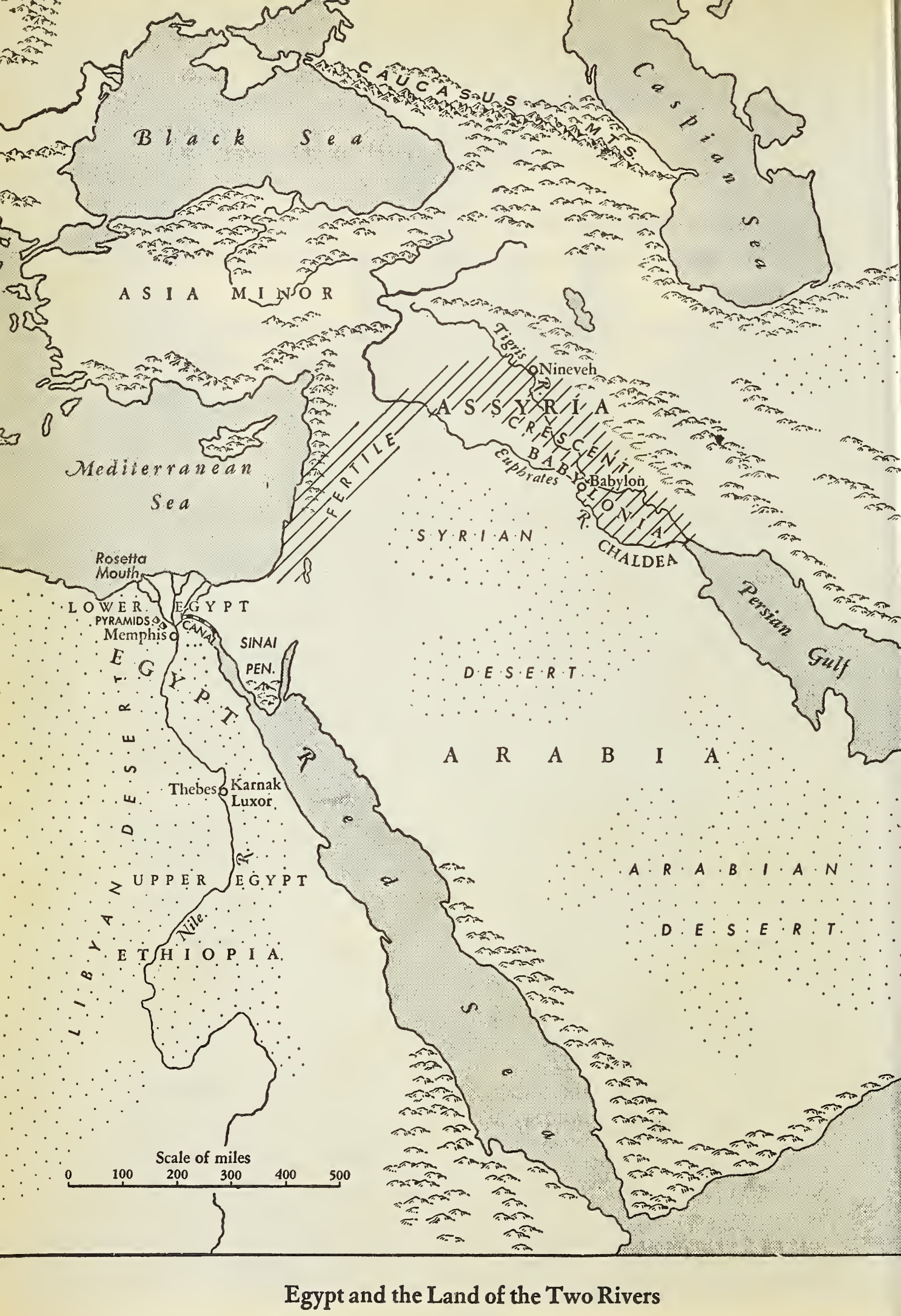
Now we must stop to look at one special group. They took many steps ahead of their neighbors. They were the first to become highly civilized. These people lived in the valley of the river Nile, in Africa.

Why Were These People So Far Ahead of the Rest?

You already know why a river valley was a good place to settle in. The people there could easily domesticate plants. They could raise large crops of grain and could furnish food for a large *population* (number of people). Therefore we should expect that more people would settle down in river valleys than anywhere else. (The population in such places would be large.)

One of the best of all the valleys is that made by the river Nile. It is long and flat. Look at the map on page 104; it shows how long the Nile is. The climate of the country is warm. There is no problem about how to keep alive during a season of cold. There are dry, hot deserts on each side. It would not be easy for enemy tribes to attack those who settled down along the Nile.

Many tribes of the white race came to this region very early. They found that they could grow big crops century after century. They did not even need to use any fertilizer. This is the reason: Every year the Nile overflows its banks. The water stands deep on the fields along both sides, for about four months. This water is very muddy. It has



Egypt and the Land of the Two Rivers

brought down rich soil from the higher lands far to the south.

As the water stands in the fields this rich soil settles to the bottom. Then at last the flood is over. The river goes back to the river bed. The rest of the water in the fields dries up. But a layer of new soil has been spread over the fields. Next year's crops will be very good.

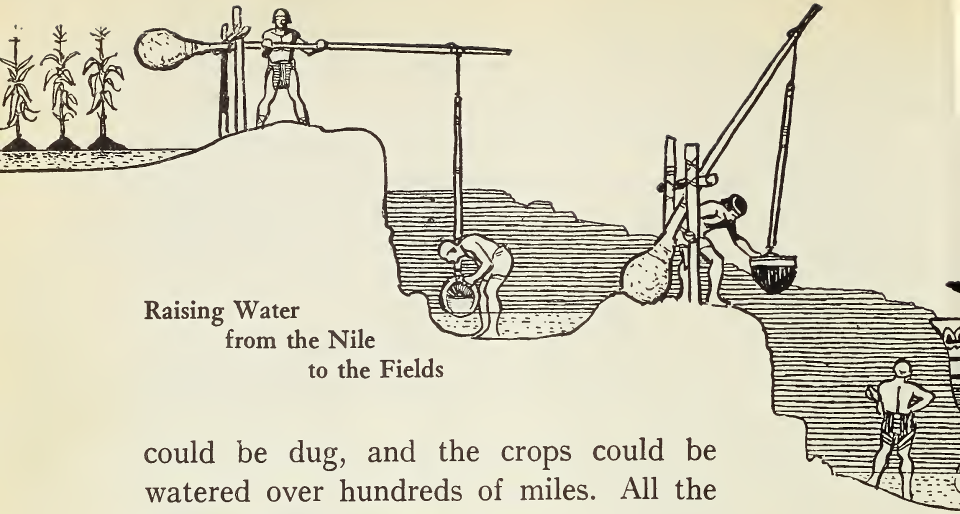
Since the beginning of time, that same thing has been going on. No wonder that tribes very early decided to settle down along the Nile!

They found, however, that during most of the year they would need to irrigate their fields. The river gave enough water. You already know how they would have to go about such work. Somebody would have to be the leader. He would be the person who could make the best plans. The others would have to be followers: they would carry out the plans.

How did the leader solve the problem of getting water enough for all the fields? The river was far below the fields. It was too far to pull water up with one long rope. So he decided to have pits dug at two or three places in the bank. Over each pit he set up a tall pole with a bucket on one end and a ball of mud on the other. A workman let the bucket down perhaps thirty feet, to the river, and pulled it up. Then he emptied it into the pit. The workman kept this up until the pit was filled.

Then perhaps twenty or thirty feet farther up the bank there might be a second pit. Workmen let down a bucket into the first pit, which was now full of water. The bucket raised water and emptied it into the second pit. This was repeated until the second pit was full.

If necessary, a third pit was dug. Thus the water was brought up to the level of the fields. Then irrigation ditches



Raising Water
from the Nile
to the Fields

could be dug, and the crops could be watered over hundreds of miles. All the pits could be worked at once.

In time better ways were found for raising the water. Instead of only one bucket a whole line of buckets was fastened to the rope. Then the help of animals was used in raising this heavy line of buckets full of water.

Order without Freedom

You can see that many people would be needed for such work. It took hundreds, even thousands. And the more there were, the more strictly each person had to be ruled. He was told just what he must do and how he must do it. Less and less freedom was given him. The leader became ever more important. He took more and more power. At last he was no longer only the chief of a tribe; he had become the king of a great state.

In this way the people along the Nile learned to keep order among as many as a million persons. That is a hard thing to do, even today. But they paid a high price for such good order. As time went on, the old democratic ways of the simple life in the tribe were given up. At last people forgot all about them. They did not know that anyone had ever been free, or that all had once been almost equal. They were not equal now in the kingdom of *Egypt*. They had order, but not freedom. The king, or *Pharaoh*, ruled the rest of the group very strictly.

Of course, one man alone could not do all the planning and the keeping of records. The Pharaoh had to have helpers. He named certain men to take charge of his work in one part of the country, and other men to take charge of his work in other parts. These persons were called *nobles*. They took the place of the king in their parts of the country. But of course they had to do whatever the king told them. He let them keep part of the grain that was raised; so they became very rich. Most of the grain, however, belonged to the king. All the land belonged to him, too. He only let other people have the *use* of it.

The nobles helped the king in many ways. They led his armies in war. They settled quarrels among the people in time of peace.

The Pharaoh and the nobles lived in great comfort. Their houses were built in beautiful gardens with a high wall around the outside. The houses were two stories high, with a flat roof where the family could sit in the cool of the evening. They had many rooms, with walls made of colored cloth. The floor was of small pieces of colored stone. These were put together in designs of pools of water, fish, birds, and growing plants.

Their furniture was of beautifully carved wood: very high, narrow beds; chairs painted in bright colors and gold; and great chests to hold the extra clothing. Plates and cups were of colored pottery or of white stone. This stone was cut so thin that the light could shine through it. Their silver and glass were even more beautifully made than our own. Perhaps you have seen some of these things in museums.

Though these people were rich, they wore only plain linen skirts. But they had great quantities of gold and silver jewelry. They wore so much of it that the weight almost bent them down. The children wore clothing and ornaments much like their parents'. They liked to play with their tame monkeys and their dolls.

You can see that the Pharaoh and his nobles had a pleasant time. Life in a *kingdom* is usually pleasant for these "upper classes."

Life of the Common People

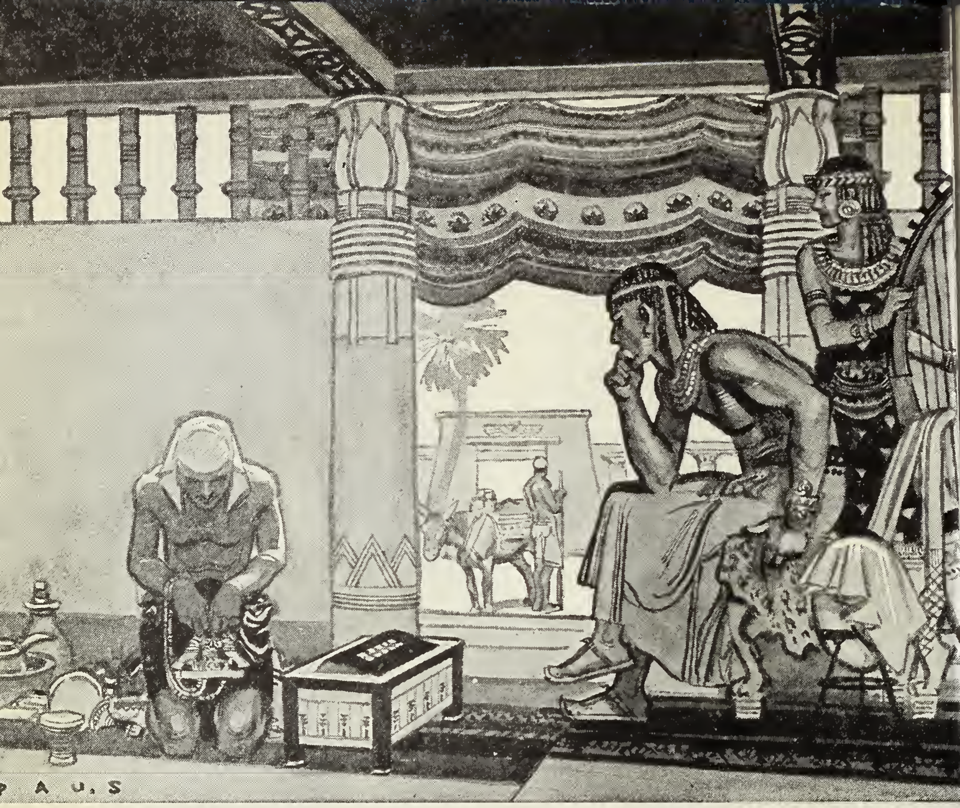
If you had lived in Egypt in these far-off times, you probably would not have been a noble. What kind of life would you have had?

Suppose you had lived in a city, such as Thebes or Memphis. Your father might have done work that needed skillful hands. He might have been a weaver, a builder, a maker of furniture, a jeweler, a stonecutter, a glassmaker, or a maker of paper. Persons who do such work are called *artisans.*

All those who did one kind of work lived on one street. They did not sell what they made in stores or shops. They did not sell goods at all; for the things they made did not belong to them. They worked only on orders from the Pharaoh or the nobles.

These upper classes told the artisan just what they wanted him to make. They gave him all the materials. Then he went home and made whatever had been ordered. When the piece was finished, he took it to the noble or Pharaoh. You can see that little buying or selling took place.

An Egyptian Noble's Home



A Craftsman Showing His Work to the Noble Who Had Ordered It

Each workman had to do good and careful work. He sometimes spent months on a single chair or box. For the noble who had ordered it would look it over very closely. If he did not think it was well made, he would never give the artisan another order. Then the man would starve. For this reason, the work of the ancient Egyptians was as perfect as the world has ever seen. Our jewelers and makers of furniture today often copy their designs.

How did this artisan get his food? The upper classes paid him in grain, oil, and honey. These things were taken out of the taxes paid by the farmers. For taxes were paid in goods, not in money. The nobles gathered these taxes for the king; they were allowed to keep some of the goods that made up the taxes. So they could pay any artisans who worked for them.

The artisans had no land. They lived in one-story houses, made of mud bricks dried in the sun. These houses had a door and perhaps a window, and a flat roof. Each family drew water from a well which was dug where two streets crossed. Many other families used the same well.

One thing about life in ancient Egypt would seem very strange to you today. If your father had been a weaver, you too would have had to become a weaver. Perhaps you would rather be a stonecutter instead. But no! the son must follow the father's trade. The people of those days did not like change. They liked to keep things going, as they always had, in the old ways.

If you had lived in the country, your father would not have owned his own farm. For you remember that all the land belonged to the Pharaoh.

The farm workers worked in the fields from sunrise to sunset. They plowed, planted, and hoed the grain. They reaped and threshed it. Then they had to carry most of the crop to the king's storehouse. For themselves they were allowed to take out only enough to keep their families alive.

Their houses were one-room huts made of sun-dried, mud bricks. Their clothing was one coarse garment. Son followed father, just as among the artisans.

Nine out of ten of the whole population were slaves. They made up the larger part of the armies in war. They carried or dragged all the huge stones that were used in building. They pulled the stones into place in the walls. They made the bricks of mud. Do you remember in the Bible story how they were forced to make "bricks without straw"?

We know very little about how these unhappy people lived. Their mud-brick houses soon fell down and nothing was left to show what they were like. No one bothered to leave any records about their daily life, except about their work.

Yet, if you had lived in ancient Egypt, you would have been more likely to be an agricultural slave than an artisan or a noble. The life of the slaves seems very sad to us. But the Egyptians probably thought little about the matter. Slaves never had known anything else, and they were not worried about progress.

Is there Another Life after This One?

The Egyptians thought very often about life and death. What happened when a person died? What became of the *life* that had been in him? They looked about them at things in nature. A seed seemed a dry, dead thing. Yet from it in the spring a young plant would burst forth. The ground seemed bare and dry; yet after the Nile overflowed, it raised a green crop.

So they decided that man too must live on. He must have a spirit, or soul, as well as a body. It is the soul which lives on after the body dies.

But the soul, they thought, would be lonely in the other world without its body. It would need the body. So they studied carefully to find out how a body could best be kept after death.

They dried it in the hot air of the desert and covered it with a sort of paste. It became a *mummy*.

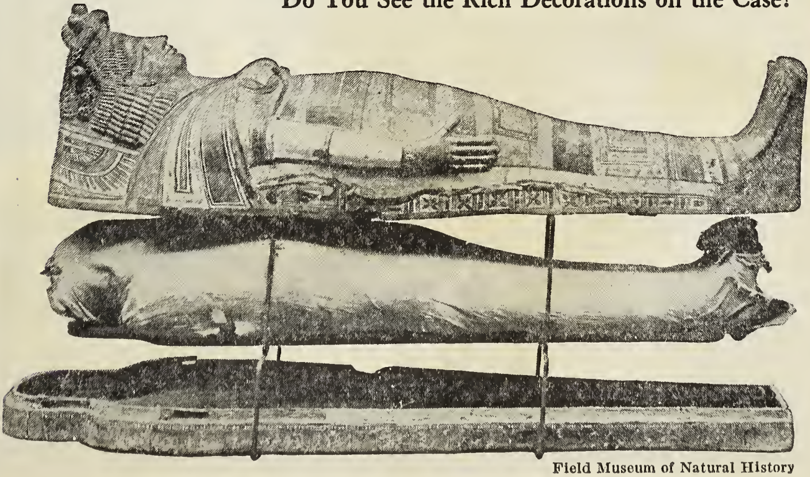
They wrapped the mummy in yards upon yards of fine cloth. On the outside they painted a picture of the person, dressed in his best clothing. The mummy was then put into a box, a coffin. This was painted both inside and outside with pictures from the daily life that the person had lived. Sometimes several coffins of wood, silver, and gold might be used, one inside the other.

Of course, such fine coffins were used only for the Pharaoh and the upper classes. The bodies of the poor were wrapped in a plain linen cloth. They were buried in the dry sand of the desert.

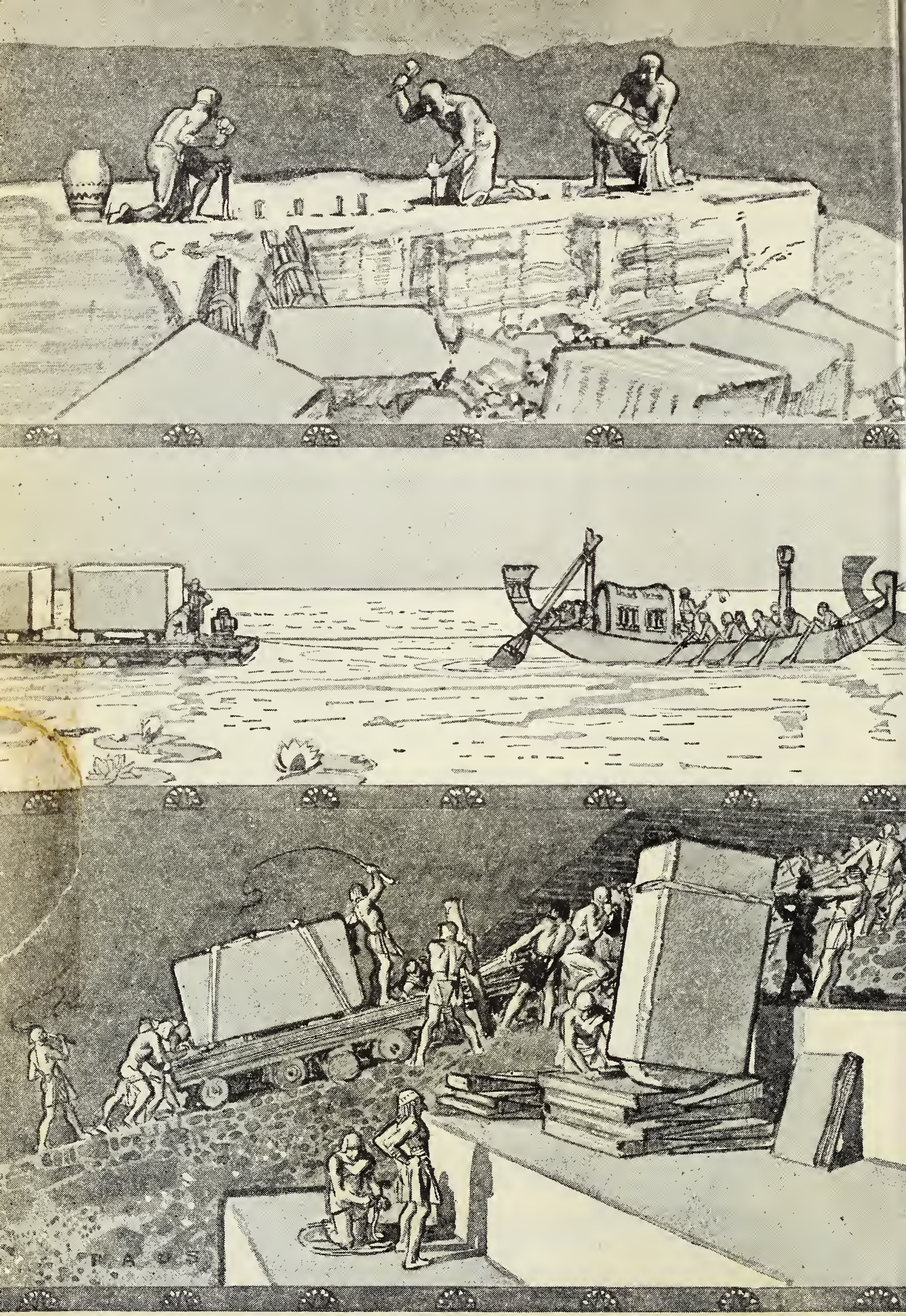
The work on the bodies of the dead was done by the priests. They were the only persons who knew the secret of how to change a body into a mummy. The rest of the world did not know how to do it—and does not know to this day.

The priests had to study the body very carefully in order to do this work. Therefore they became good doctors—the best in the world at the time. They even knew how to operate on the eye. It was the priests also who did the writing, and they were the only persons who knew how to count time. (See pages 129–130.)

A Mummy and a Mummy Case.
Do You See the Rich Decorations on the Case?



Field Museum of Natural History



Building a Pyramid. Can You Explain What Is Taking Place in Each Picture?

Because they were so important, the priests were held in great respect. Their power was dreaded. The priests knew this. So they used their power to keep everything the same as it always had been. They did not like change.

How can the bodies of the dead be kept safe? One problem troubled the Egyptians very much. How could a mummy be kept safe, so that the soul could return to it? For sometimes robbers would break tombs open in order to get the gold and jewels.

The answer was to build very large heaps of solid stone. These are called *pyramids*. The largest were tombs for the Pharaohs; smaller pyramids were for the nobles.

Today we cannot imagine how so much work could ever have been done. The largest pyramid, that of King Khufu, covers thirteen acres of ground. It is made of about two and a third million stones. Each stone weighs about two and a half tons! We are told that it took one hundred thousand workmen twenty years to build it. (How many people live in your city? Compare with this number.)

Every one of those stones had to be brought from the western hills, for there was no such material in the valley. In the rocky hills, holes were bored by a drill. Pieces of wood were driven into the holes. The wood was kept wet until it swelled. Then it cracked the stone.

Long ropes were wound around each stone. A gang of slaves pulled it to the river by means of rollers. Then a flatboat carried it down to the spot where the pyramid was to be built.

How those huge stones were piled upon one another is shown in the picture. A slanting wall was built up of rubbish of all kinds. The slaves pulled each stone up the wall to its place. The planning had been done so well that each one fitted into the right spot. After all was finished, the rubbish was cleared away.

Inside the pyramid was a small room, reached by a secret hall. That is where the great stone coffin was placed.

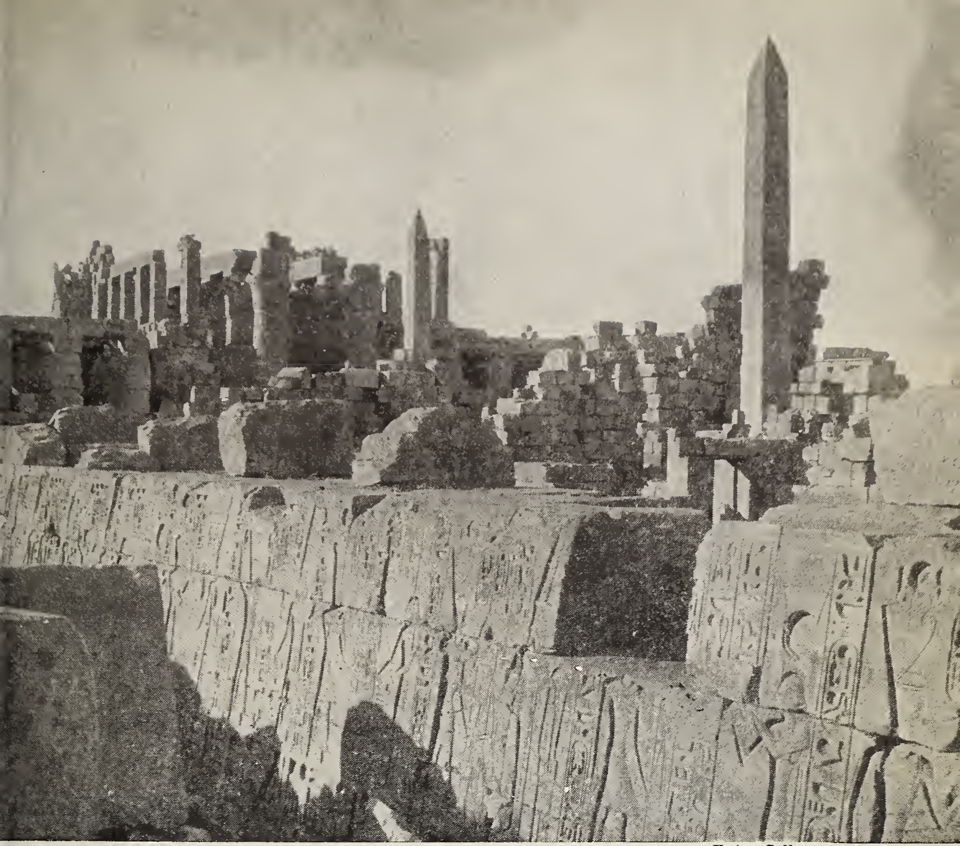
When all the pyramids were standing, there was a row sixty miles long in a single cemetery. Very few are left today. And yet every year travelers come from all over the world to look at these wonders of the past.

As the centuries went by, no matter how much care was taken in the building of pyramids, most of the secret rooms were forced open by robbers. So the later Pharaohs did not build pyramids. Instead, they built their tombs far underground in a distant place called the Valley of the Kings.

In these underground tombs the hall and the deep room itself were covered from floor to roof with rows upon rows of paintings. These showed the daily life which the dead man had so loved. There were pictures of his slaves plowing, sowing seed, hoeing, reaping with a sickle, and threshing. In another row of pictures he was shown walking about, watching the grinding of grain, the baking of bread, and the making of beer.

A third row might show him counting the bags of wheat or the jars of oil that his slaves were bringing to the storehouse. Another row might show the great man at home, sitting in his garden, playing with his children, and eating with his friends.

Today we can study the pictures and learn about the daily life of those people who lived thousands of years ago. In fact, we know more about them than we know about the life of the American Indians before Columbus. American artists go into those secret rooms and carefully copy each picture to show to us.



Ewing Galloway

Ruins of the Temple of Karnak. Do You See Two Obelisks and Some Columns?

The world's first great stone buildings. Other great buildings were put up also. Most of them were temples in honor of the gods; for the Egyptians had many gods. Their chief one was Amen-Ra, lord of the life-giving sun.

Their temples were not like our churches. People did not go there on Sundays to listen to the priests. They gathered together only at the great feast days of the year, such as the first day of spring. The rest of the time the priests were there alone. They lived there and carried on daily services in honor of the god whose temple it was. Each god had many temples.

Sculpture in High Relief. This Piece Was Done by the Romans Rather than by the Egyptians. (For Carving in the Round, See Page 133)

If you wanted some help from one of the gods, you would go to his temple with a gift, such as a loaf of bread. You might ask a priest to say a prayer for you. Then you would go away.

The temples were huge. There was usually a high stone wall around the grounds. On either side of the entrance was a tall building to guard the gateway. Along the road from the gate to the temple door was a double row of stone statues. Each of these had the head of a man and the body of an animal; it was called a *sphinx.*

The main building of the temple was of stone. It had a higher part through the middle, and lower parts at either side. The roof was held up by huge columns of stone. They were carved at the top.

A common person could not enter the temple building. But he could go as far as the entrance and look inside. For there were no outside walls—only rows of columns. No walls were needed in that warm climate. He could look at the bright colors of the ceiling, the floor, the painted columns, and the inside walls—bright-green, blue, yellow, and orange-red. To the man who lived in a one-room mud hut it all seemed wonderfully beautiful. It took his breath away and made him feel very humble. But the quiet there made him also feel very peaceful.

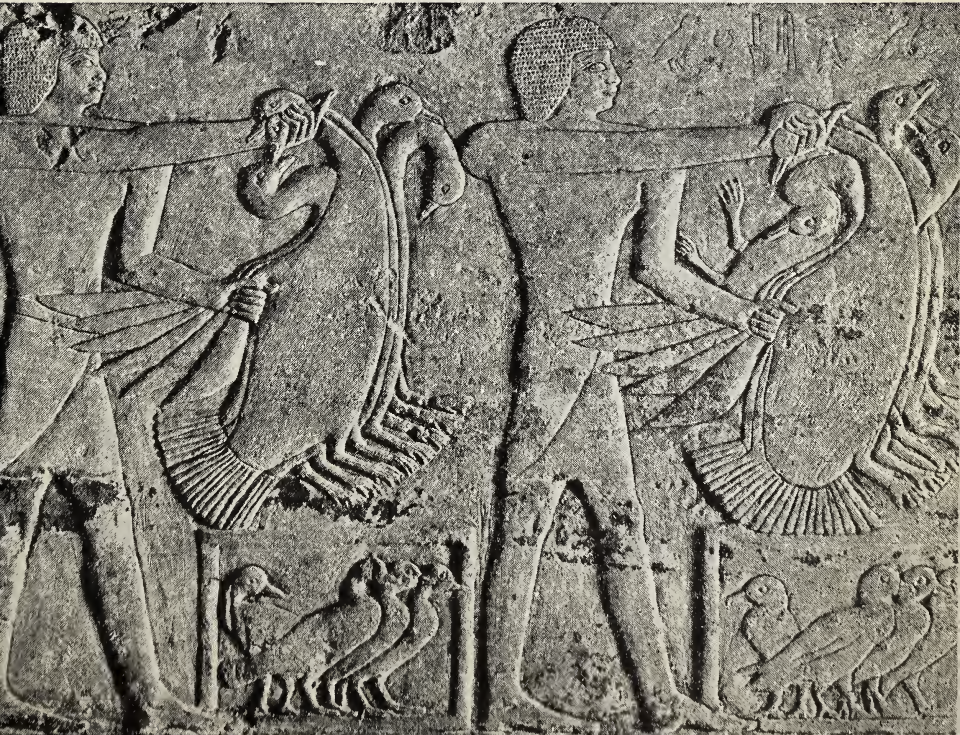
Everywhere there were statues arranged in rows—figures of men and gods and animals. The carving was stiff and severe and according to rule. Nothing was free and natural. For Egyptian life was not free; it too was ordered and fixed. Nevertheless, the statues had great dignity and calm.

Some of the carving was done *in the round.* That means you could walk all around it and look at it from different sides. Other carving was done on flat stone; but the background was cut away deeply, so that the figure stood out from the rest of the stone. This kind was called *high relief.* Some had the background cut away only a little. This kind was called *low relief.*

Two of the largest temples were the Temple of Karnak and the Temple of Luxor. On the grounds of these were a

A Carving in Low Relief. The Men Are Bringing Geese to Offer to the Gods

The Oriental Institute of The University of Chicago



few tall four-sided *obelisks*, such as you see in the picture on page 117. They were cut from a single piece of hard stone. Some of them have lasted to this day. One was sent to the United States years ago. It now stands in Central Park, New York. We call it Cleopatra's Needle.

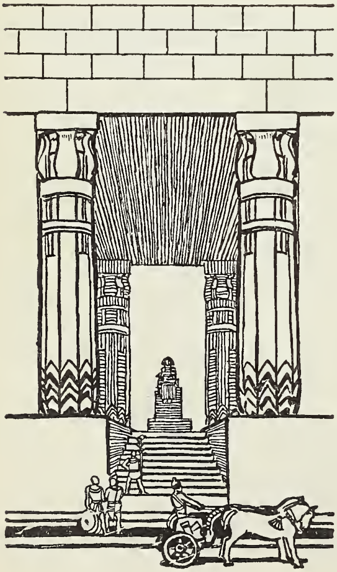
A problem solved for us. When men first began to build in stone, they found it very hard to make doors and windows. It was easy enough to cut a doorway. But how could they hold up the stones above the part that was cut away? If you have ever tried to make a large building with your small blocks, you have met the same problem.

The Egyptians were good builders, or *architects*. They thought out a plan. They used a single stone, cut long enough to cover the top of the door or window. This was the *lintel*. It held up the weight of all the smaller stones above the part that was cut away.

What would hold up the lintel? The first thing they tried was a log on either side. These posts supported the lintel. We still speak about "doorposts," though it has been long indeed since a real post was used.

Are there any doorposts in your room?

But when all the rest of the building was to be of stone, the Egyptians did not want to make the doorposts of wood.



Building with Columns and Lintel. Why Can the Columns Not Be Too Far Apart?

So they made them of stone, too, cut in a round shape like a tree. We call such a figure a *column.*

By the use of columns and lintels great weights of stone could be held up. Openings, however, could not be as wide as the openings in many of our buildings today. For they could be only as wide as a lintel was strong. And a lintel had to be made of a single piece of stone.

Find the lintels in the building in which you live. They are still used for most of our doors and windows, though they do not always show.

Are columns used in building today? Do they really help to hold up the weight of the walls or the roof? Or are they used only as decorations? The Egyptians needed them.

By putting several rows of columns through the middle of a building the Egyptians could make a room as large as they wanted. With columns and lintels they could hold up walls and roofs of great weight. They were the first people who learned to do these things. They taught all the neighboring nations.

Perfect Work in Minor Arts

Carving in stone is called *sculpture.* Sculpture, painting, building (or architecture), and music are often called the principal, or *major,* arts.

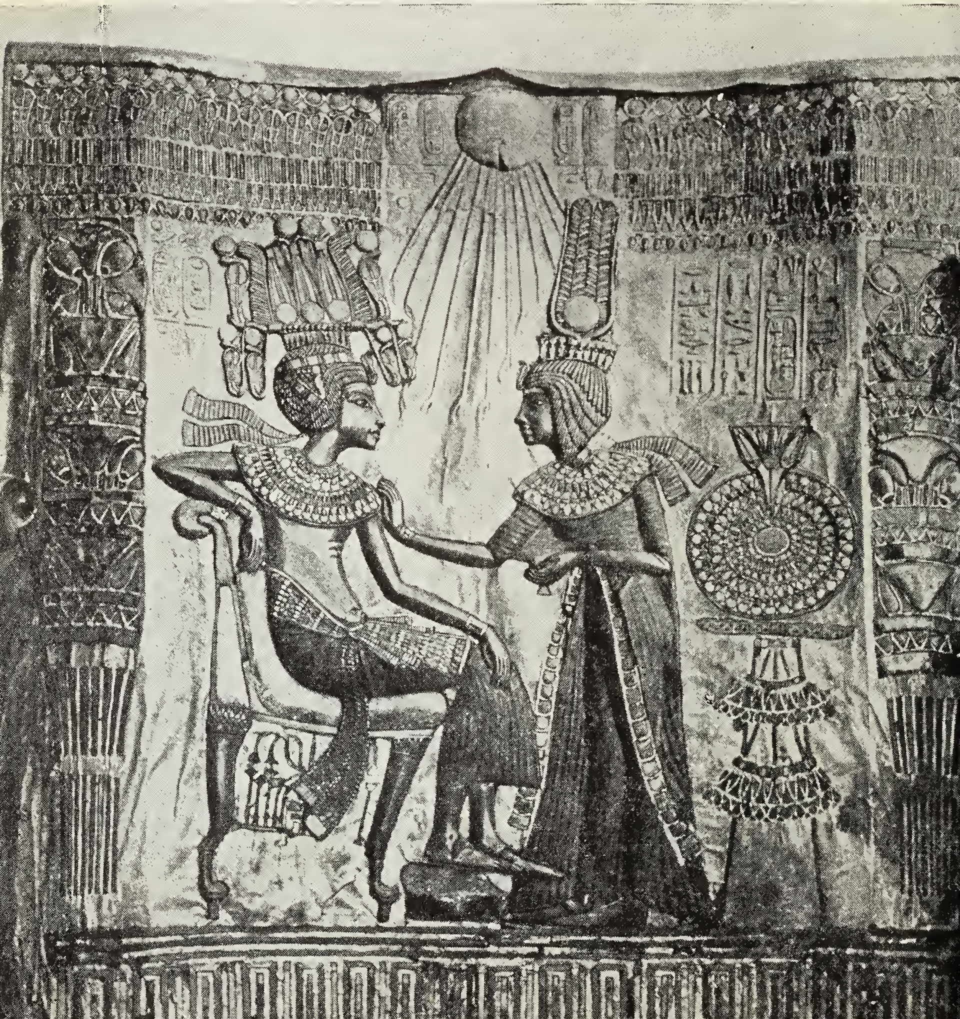
However, there are many more arts besides those. Woodcarving is one. The Egyptians could do very good carving in wood. Their furniture and chests were very beautiful. Some of their ideas we still use today, such as carving the legs of chairs or tables in the shape of animals' paws. We also learned from them how to set strips of one kind of wood into the surface of another kind of wood. This is called *inlay.*

For weaving, their artisans liked to use linen. They wove it so fine that it looked and felt like our silk. Machines today cannot do such fine work.

You remember that the use of metal is one of the tests for civilization. The Egyptians could work in copper, in gold, and in bronze. They cast bronze in many forms, such as pots, kettles, and lamps. Their lovely bronze lamps

This Is the Back of the King's Chair. It Is Made of Sheet Gold. Bits of Glass and Colored Stones Are Inlaid in the Surface

© Metropolitan Museum of Art



had a handle at one end and a spout at the other. The wick came out through this spout. Oil from palm trees was burned. It gave a much better light than the cave man's stone lamp.

Egyptian pottery was the finest that the world had yet seen. The potters painted the surface of the things they made. Then they covered them with a smooth glaze made of melted sand and other materials. This made the colors look much brighter.

Around their floors and doorways they liked to use small colored squares made of baked clay. These are called tiles. You can imagine how beautiful a room must have looked when its floors and walls were decorated in this way. Today rich people often use colored tiles for their fountains, porches, and garden walks.

In Egypt, for the first time in the world's history, men learned to make glass. They were not interested in clear glass like ours. They wanted colors and designs. Glass is so difficult to make, however, that their articles were usually very small, such as bottles for perfume.

Their leather-workers drew designs on the things they made and decorated them with gold. Perhaps your art teacher can show you some leather decorated in this way.

All these arts are called the *minor* arts.

How do we know what kind of minor arts these people had so many thousands of years ago? They believed that in the life beyond the grave a person would need everything he had needed in this life. So they put into a rich man's tomb with him all his clothing, furniture, and decorations. They also put small models of workmen making these articles. The models were only a few inches tall, but were perfect. And you already know that the pictures on the walls of a tomb showed workmen going about their tasks.

Thousands of years later some of these tombs were found and opened. The beauty of their articles of beaten gold, of thin cut stone, of fine linen and leather, of carved wood covered with gold, quite takes our breath away.

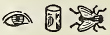
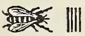
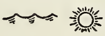
We can admire a beautiful gold necklace, and we can see models of the jewelers working on that very piece. Then we can look at the pictures on the walls and can follow every step in the same work. Therefore we know a great deal about all the Egyptian arts.

One of the richest of all the tombs of the Pharaohs was that of Tutankhamen. You may have seen pictures of some of the things found in his tomb.

A Step Forward in Writing

Surely people who could do such fine work in the arts would never be satisfied with the kind of picture writing about which you read on pages 97–99. They were not.

It was easy to draw a picture of an object. But it was hard to show an *idea*, such as *truth.* For centuries the Egyptians puzzled over that problem. Then they began to make picture writing of the *sound* of a *word*—not to draw a *picture* of the *object.* This was a step that primitive men had never taken.

How can you draw the sound of a word in picture writing? If the word has only one syllable, sometimes that is not very hard. For example:  (I can fly). If the word is a long one, it must be broken up into syllables, and a picture must be drawn of each syllable. Examples are  (before),  (season).

The Egyptians used both kinds of picture writing. They drew pictures of an object itself. And they drew pictures of the *sound* of a syllable. The pictures below and on page 126 show you Egyptian writings; they are called *hieroglyphics*.

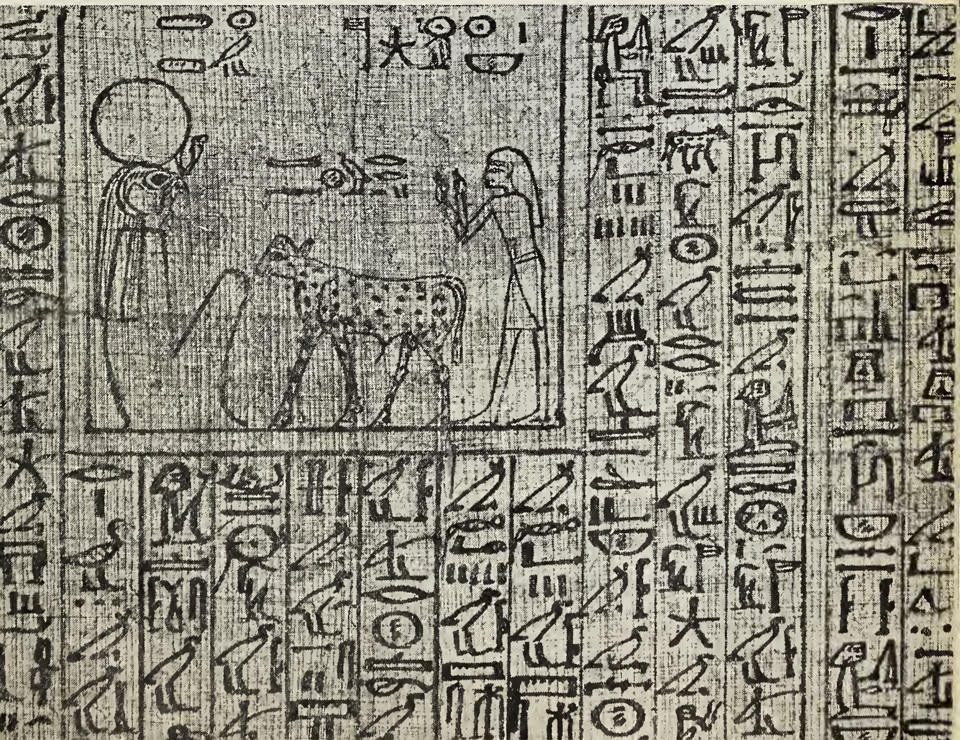
It was hard to do that kind of writing because there are so many *sounds* that people can make. The number runs into the hundreds. The priests therefore had to learn to make hundreds of different signs. You have to learn only twenty-six letters when you learn to write.

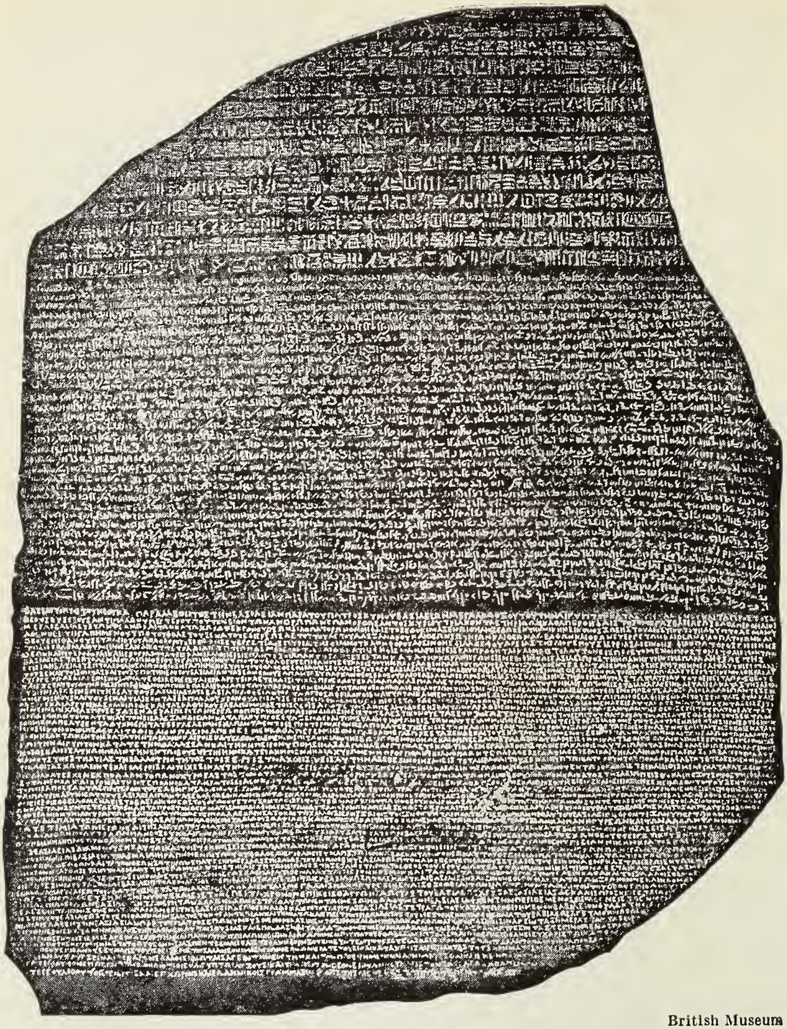
The tombs, temples, and obelisks were covered with hieroglyphic writing cut into the stone. In modern times men have learned to read it. The story of how they were able to do so is an interesting one.

Some soldiers were digging a ditch near the Rosetta mouth of the river Nile. In the mud they found a large

Egyptian Hieroglyphic Writing. Can You Find the Same Sign Used More than Once?

British Museum





British Museum

The Rosetta Stone. Can You See the Three Kinds of Writing?

black stone covered with three kinds of writing. It had been buried for twenty centuries.

The stone was sent to wise men to study. They said that one kind of writing was Greek. And they already knew how to read Greek. One of the other kinds of writing was hieroglyphic. The wise men guessed that the hieroglyphics said the same thing as the Greek writing.

One of them set to work at the puzzle of what the hieroglyphics meant. He spent years at this work. At last he was able to read a few of the Egyptian signs. Other men went on with the study until they were able to read them all.

The Rosetta stone made it possible for people today to read the writings that were cut into the walls of tombs and temples. These writings are histories of Egypt's wars, stories of her kings, and even her poems and songs. We are still finding out more and more about old Egyptian life as more hieroglyphics are read.

The importance of writing. Perhaps you have thought that you had a hard task to learn reading and writing. But if writing had never been invented, you would have had to learn everything "by heart." Is it easy for you to learn even a short poem?

You know how many things primitive man had to learn by heart—all his songs and the words that he used in speaking to the gods and the spirits. He also had to learn the words of every promise that he made to anyone. He had to remember every point about all his business dealings. He had to learn the names of his grandparents, great-grandparents, great-great-grandparents, and so on—for as much as fifty families back. Would you like to do that?

Kings sometimes had to have "memory men" as helpers. Each such man had to remember what the king had promised to do in a certain case. He had to be able to repeat the promise many years later, word for word. The invention of writing saved all this work.

There was another good thing, too. In the old days all that a wise man knew died with him—all but the little that he could teach his followers by heart. Now that writing was known, he could leave a full story of everything that he had done or had found out. The people who came after him could get the benefit. They need not make the same mistakes over and over. Thus progress was speeded up. Learning was made easier.

One step more was needed, however, before there could be a really good plan of writing. That was to show each *single sound* instead of each word or syllable. The Egyptians did not do that very well; it was left for another people to discover.

How to make writing easier. To cut all the hieroglyphic writings into stone was very difficult. It took a long time. Some faster way was needed for ordinary business dealings.

The priests could not be expected to take time off from their religious duties to keep all the records of trading and taxes. So they taught a group of other men to do the ordinary kind of writing needed for business. These men were called *scribes*; they could be hired. They were the first men in the world to earn their living as brain workers.

At first the scribes used any kind of material they could find. They wrote on broken pieces of pottery, on the dried shoulder blades of sheep, or on palm leaves.

A Scribe
Writing on Papyrus

Then a better material was found. It was made from water plants that grew in shallow water. This plant is called *papyrus.*

The stalks of the papyrus plants were cut into long strips. These were pounded very flat. Some were laid lengthways in rows and others crossways over them until the sheet was wide enough. Then the whole was pounded until the pieces all stuck together.

The material was then firm and smooth. It was easy to write on. Our word "paper" comes from the old word "papyrus."

For pens the Egyptians used reeds, split and sharpened. For ink they mixed soot with glue and water. Thus we learned from them the use of paper, pens, and ink.

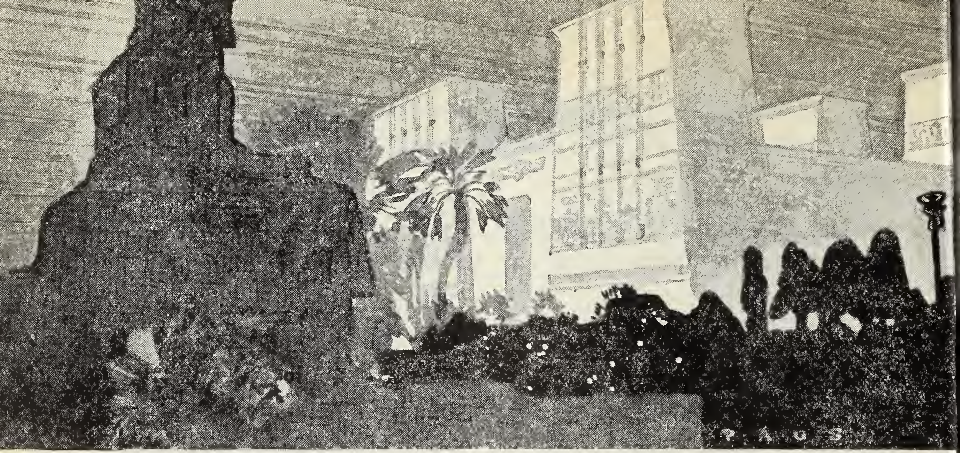
The long strips of papyrus were wound on a wooden roller, somewhat like the rolling pin that your mother uses in baking. Each roll was called a book. When an Egyptian read, he did not turn leaves in a book: he unrolled a roll. Then he rolled it up again and stood it in a jar or laid it on a shelf.

Why Did the Egyptians Study the Stars?

The Egyptian religion considered the coming of spring very important, just as the Christian religion makes Christmas important. How could the priests find out which day was the first day of spring?

That was a very hard problem to solve. They had nothing to measure by except the sun and the stars. And it took centuries of careful watching before they could learn to measure by those.

After a long period of watching and counting they learned that *the stars are the most regular objects in all*



The Pharaoh Comes to Attend a Sunrise

nature. Today we are so sure of their regular movement that we can tell just where they will be on any night hundreds of years from now. Or we can tell just where they must have been any night hundreds of years ago. The Egyptians were the first to learn these things for us. They made maps of the sky just as people today make road maps.

They learned that when the stars were in a certain position, it was time for the spring season to come. So, the next morning, they watched carefully for the first rays of the rising sun. Their temples were built so that these rays would shine directly through a small opening upon the statue of the god. That showed that spring had come.

By counting year after year and century after century, the priests of Egypt learned that it took the sun's rays three hundred and sixty-five days to move from a certain place back to the same place again. So they began to count time by years. Thus they learned that there are three hundred and sixty-five days in a year. Do you suppose that any of us could have done such a difficult thing?

By studying the sun and the shadows it makes, they also learned to measure land. This was very much needed; for

Ceremony on the First Day of Spring

the only kind of fences they had were furrows between their fields. Every year, when the river overflowed, these furrows were washed away. Then there would be quarrels between the men who grew crops in those fields. Just where should the dividing line be put?

With ropes and stakes the Egyptians learned to find out where the square corners were. Then it was easy to draw the lines from one corner to another.

Thus the Egyptians taught us the first steps in measuring, or *surveying*, land.

The Trader Spreads Civilized Ways

The Egyptians never became a great trading people. Yet they raised more of certain things than their own country needed—grain, for example. They sent grain to places which had none. The Bible story of Joseph's brothers going down to the land of Egypt is an example.

They were the first people to make sailing ships strong enough to sail on the sea. But, if there was no wind, such a ship could not move. So they placed rows of oars along each side. Slaves rowed the boat when the wind went down. By the year 2000 before the birth of Christ (2000 B.C.) the Egyptians had ships larger than those Columbus used many years later.

In return for their wheat and linen, the traders wanted gold and silver; for their country had none of those metals. They got some along the eastern coast of Africa, and some as far away as India. They also wanted great logs of cedar wood for their building and carving. They got them from the hilly country at the eastern end of the Mediterranean Sea. They wanted copper to use in the making of bronze. They got it from the Sinai peninsula. (See the map on page 104.)

So much transportation was carried on by water that the Egyptians wanted a short way to go from the river Nile to the Red Sea. They dug a ditch, or canal, all that long way. Traces of it can be seen even yet.

They carried on trade by land too. They packed heavy loads on donkeys. For camels were not known in that part of the world until late in Egyptian history. They sent their donkey *caravans* far up the Nile to the country of Ethiopia. That is where the Queen of Sheba of the Bible story lived. They got gold and ivory in Ethiopia.

Everywhere that the traders went, they spread a knowledge of Egypt's civilization. So the near-by countries and islands learned Egypt's ways of working in metal and leather. They learned her ways of making colored pottery and fine linen. Thus Egypt became a great teacher of the slower parts of the world.

A State Grown Warlike

As the centuries went by, Egypt became richer and richer. The number of people (the population) increased greatly The Pharaoh had more and more wealth and power.

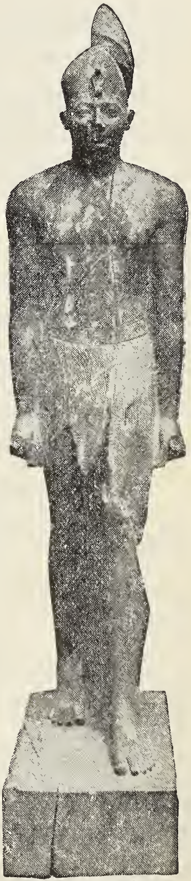
In the early days there had been an Upper Egypt in the south, far toward the upper waters of the Nile. There had been a Lower Egypt, in the north, farther down near the mouth of the river. One of the early Pharaohs joined these two parts together; then all the country was "the land of Egypt."

Later Pharaohs were not satisfied to rule over only one country. They wanted still more. So they sent out armies and conquered their neighbors. Any country that takes in other countries that it has conquered is called an *empire*. Egypt became an empire.

The names of two of the great warrior-kings were Thutmose III (the third) and Rameses II (the second). They sent armies to fight from Ethiopia to the eastern shore of the Mediterranean Sea.

But an empire does not last forever. In time some other country tries to become an empire. And at last some other country always succeeds.

Later you will learn the names of some of the people who conquered Egypt: the Assyrians and Babylonians, then the Persians, then the Greeks, and then the Romans. You may have heard the name of Cleopatra. She was an Egyptian queen who ruled during Roman times.



The Great Warrior King, Thutmose III. Do You See Why This Is Called a Carving in the Round?

Cairo Museum

Then the Arabs took the country. They held it a long time. Arabic is the language that is spoken by the Egyptian people today. Then the Turks came in. At last the country became independent again. It is independent now; but it could not long remain so without the help of Great Britain.

As you look back over this part of Unit Two you will notice the great number of things that our world has learned from the ancient Egyptians. Those people whom we never saw—who were dead thousands of years before we were born—solved many of our problems for us. Our life today is easier and pleasanter because they worked and suffered and learned.

Nowadays thousands of travelers every year go to Egypt to see the wonderful buildings left by these ancient people. Someday some of you too may stand at the foot of the pyramids.

To Talk About

Have you ever planted a garden? Did you use fertilizer? Why do farmers today use fertilizers on their fields?

Why was a river valley a better place for an early agricultural people than wide plains?

Do the people in your city need to co-operate in order to get their water supply?

Which way is "up a river"? Which way is "down a river"?

Why have the things used by the Egyptians of long ago kept better in that climate than they would keep here?

Do you think it was a good thing to bury so many valuable articles in the tomb with a dead person? Do people today do anything that is at all like that?

Do present-day Egyptians write in hieroglyphics?

To Do

After a rain, take a walk to see whether you can see any place where the water has brought down fresh soil.

Show the class the kind of tax receipt that is used today.

Bring a pulley to class. Show just how the ancient Egyptians used it.

Make a picture collection of sculpture in the round; in high relief; in low relief. Can you tell where examples of each can be found in your community?

Can you find any pictures of writing in the Arabic language? The encyclopedia may help you.

Learn to locate at least one star—for example, the North Star; one group of stars—for example, the Big Dipper. Is the Big Dipper always in the same place in the sky?

Make a list of the inventions made by the ancient Egyptians which are still in use today. What things in your own home would you have to do without if the Egyptians (or someone) had not invented them?

The First Great Business State

Was the valley of the Nile the only place which could supply food enough for many people? Was it the only place where civilization would begin very early?

Look at the map on page 104. East of the Nile you will find two other rivers. They are in Asia. They flow toward the south rather than the north. They are the Tigris and the Euphrates.

The Tigris and the Euphrates, like the Nile, overflow their banks every year. They too offer a good water supply. So the land around them is often spoken of as the Land of the Two Rivers.

Was this as safe a place to settle down as Egypt? It was not. You can see that there are hills at the north and east. And every so often, the fierce hill people came down to attack the people on the plain.

At the west of the two rivers you notice a desert. It separates the Land of the Two Rivers from Egypt. If travelers wanted to go from the one country to the other, the best way was to follow up the Euphrates. Then they could cross over to the shore of the Mediterranean Sea and turn south to reach Egypt.

The shape of all the part which is fertile is that of a young moon, or crescent. This whole country is often called the Fertile Crescent.

Because the easiest and most pleasant way to travel from east to west was to follow along this Fertile Crescent, the land has had many troubles. It has not been peaceful, like Egypt most of the time, but has gone through war after war. Its rich soil has been the cause of attacks upon it, century after century.

The people of Egypt and the people of the Land of the

Two Rivers began to travel back and forth very early. They soon learned where the desert wells were. Then their caravans would sometimes cut straight across the desert from one country to the other. They exchanged goods and ideas. What one country learned, it soon taught the other. In fact, it is very hard today for us to find out which was the teacher and which was the pupil.

Sometimes you will find the name *Babylonia* used for the southern part of this country; and sometimes you will find it called *Chaldea*.

Everyone Knows in What Class of People He Belongs

The people were all divided into classes, as was the case in Egypt. Today, if anyone should ask you, "In what class of people does your family belong?" you might not be able to tell. But in the world of long ago everybody knew. And into whichever class he was born, there he had to stay the rest of his life. There was little chance to "rise in the world."

The population in the Land of the Two Rivers was very thick. There was the same problem about how to keep order as there had been in Egypt. So the strongest leader had made himself king very early. All the others had to follow him. There was no freedom for common men.

The king did not own all the land. Many of the nobles and farmers owned the soil that they worked. The king, however, could tax it all. He was the leader of the armies in wartime. And he himself was the chief priest.

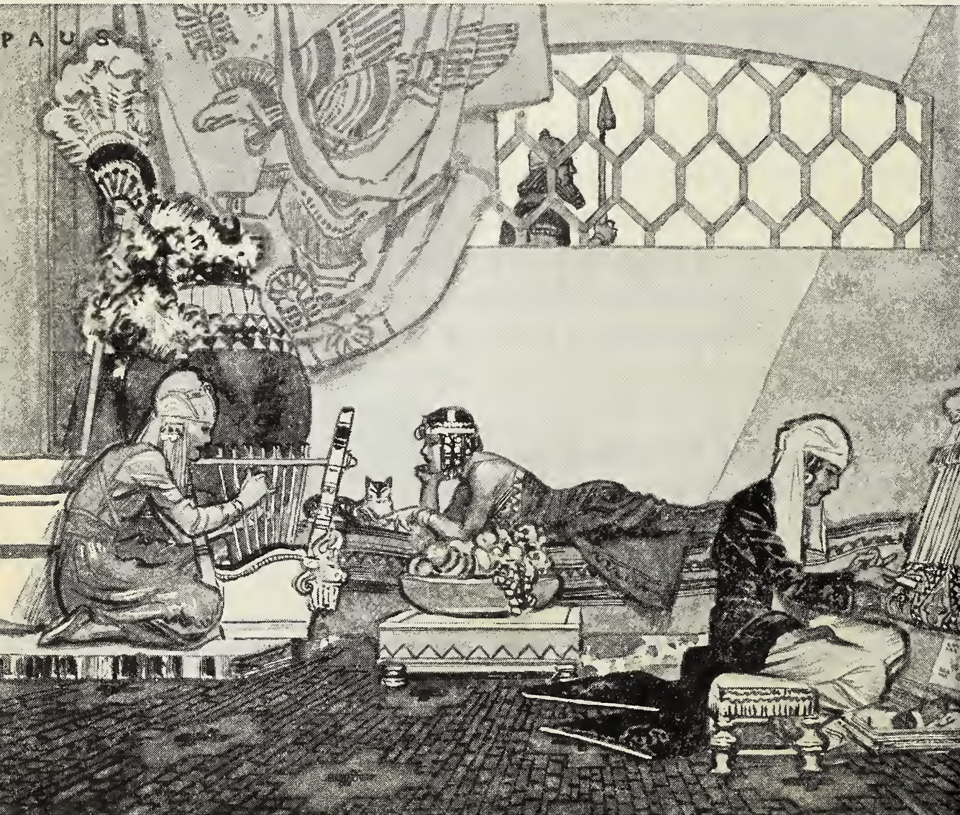
The nobles were his helpers. They collected his taxes and helped to lead his soldiers. They also settled everyday quarrels among the common people.

If you could have walked the streets in those days, one thing would have seemed strange to you. It was very different from Egypt. You would never have seen any of the upper-class women on the street. Where were they? You would have learned that they were shut up in the house. They never left it unless they were wrapped in veils and heavily guarded.

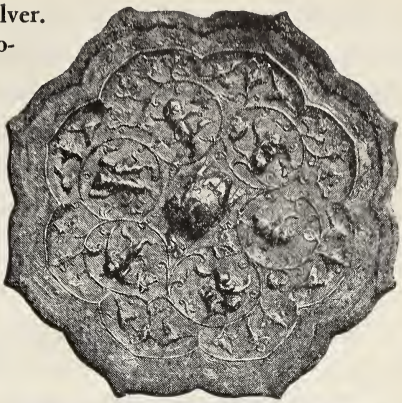
They lived in their own part of the house. No strangers might enter it. None of the men friends of the family might enter it, either. The part of the house that belonged to the women was called the *harem*. Even today some rich people in the East still have harems.

The husbands thought that they were only being kind in guarding their wives in this way. But the women grew used to being treated differently from men. And then in

The Harem in a Rich Man's House in Babylon. What Is Each Woman Doing?



The Back of a Mirror in Repoussé Silver. This Piece Is Chinese. The Babylonians Learned to Do Such Work as well as the Egyptians


The University Museum, Philadelphia

time, because they lived so differently, they were looked upon as beneath men. To this day Eastern women are not considered as important as men.

Of course, the women of poor families could not be kept in a harem. They had to go about the streets in order to buy food for their families. They often had to work where men could see them. Ever since, the life of rich women has been very different from the life of the poorer women.

The farmers along the two rivers raised barley and wheat, with the help of irrigation. They worked much as the farm workers did in Egypt.

The artisans learned to do much work like the Egyptians. The workers in silver and copper liked to beat their metal into thin plates. Then they carved a piece of wood in the form of an animal, a bunch of grapes, or some flowers. Over this wooden mold they pounded down their sheets of silver or copper. These were then in the same form as the mold. This made a raised pattern that we call *repoussé.* You yourself may have seen silverware in repoussé.

The weavers in wool were even better than the Egyptian weavers. The woolen cloth of Babylonia was liked all over western Asia. It was firm, yet soft and light. The women made it even more beautiful by embroidering wide bands around the neck and the bottom of each garment.

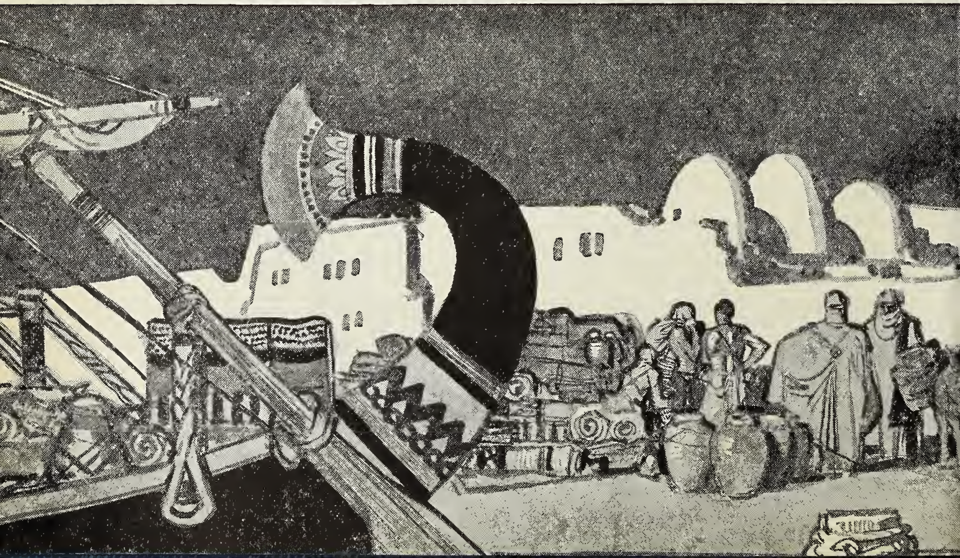
As in Egypt, most of the people were slaves. If you had lived at that time, you would most likely have been a slave. You would have had to work long hours. But at least you would not have been forced to drag heavy stones all your life. For there was little stone in the southern part of the country. Late in history, camels were brought to the land. They were a great help to the lowest class.

The World of the Businessman

There was one other class of people about whom you have not yet heard. There was no large class exactly like them in Egypt. Today we would call them businessmen. They spent all their time in buying and selling things. In Babylonia they were very important indeed.

The map showed you that most of the land around Babylonia was either desert or was not very fertile. So all the people in the countries round about wanted dates, grain, woolen cloth, and leather from Babylonia. In exchange they gave slaves, and silver or other metals.

A Donkey Caravan

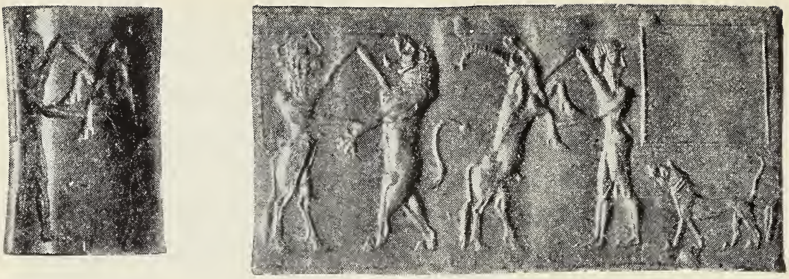


So the Babylonians built up a huge trade. They sent many goods out of their country (or *exported* them). Some they exported by donkey or camel caravans around the Fertile Crescent. Some they sent across the deserts. Some they sent to the east. (See the story on page 169.) The caravans followed regular *routes.* They helped to keep the roads in good order. The king sent his officers to keep the peace on the roads and to see that no one was harmed. That shows how important the king thought trade and business were.

As time went on, and the Babylonians learned how to sail, large sailing ships also were loaded with goods such as rolls of woolen cloth and leather. The ships sailed down the rivers, down the Persian Gulf, and on to India or Arabia or Egypt. (Trace these routes on a wall map.)

All the towns at which these ships stopped were much alike. In the center of the town was a great open square. Around this was a row of little stalls or shops.

The trader would take his rolls of goods to an empty stall. He would break the seal where the ropes were fastened. Every maker of goods had his own seal. (On



The Oriental Institute of The University of Chicago

A Babylonian Seal and the Kind of Mark It Left in Clay or Wax

page 152 you will read how these seals were made.) These were known all up and down the coast.

The buyers would come to look at the seals. They would say: "Yes, I have known the man who uses that seal for a long time. He is honest. He sells only the best cloth." Then they would buy. If they found out later that the cloth on the inside of the roll of goods was not as fine as the cloth on the outside, they never would buy again from that man. And they would tell all their friends. So each seller was very careful to see that his seal was used only for good cloth.

Some of the businessmen sent traders to far-away lands to take orders. These helpers would take little samples of different kinds of woolen cloth with them. In the cities where the boat stopped, one buyer might order ten pieces of white woolen cloth, another might order thirty pieces of brown cloth, and so on.

When the trader returned to the city of Babylon, he would turn in his list of all these orders. The businessman would then have the different kinds of cloth woven by his artisans. It might take a year to finish all the orders.

When they were all ready, the businessman would send out his traders once more. They would deliver the cloth and hand each buyer the *bill* for his goods. The buyer would pay it. We should call the persons who sold goods for the businessmen "traveling salesmen."

The Babylonians also started many other things used in business. One was paying for the use of money. Another was giving a written promise to pay (a *note*) if a person wanted to borrow money. Many of these things you will not fully understand until you are older. But you may be sure that businessmen today are using many ideas that were first thought out by businessmen in Babylonia thousands of years ago.

How can the buyer and the seller measure their goods? In a world where there was so much trading, people soon found that they had to measure goods. For example, the man who bought a roll of woolen cloth wanted to know how much cloth there was in it. He did not want to have to stop and unroll it to find out.

Also, the man who ordered wool cloth for a cloak had to be able to tell the maker just how long he wanted the piece to be.

You might say: "That is easy. Just tell him you want so many feet or yards of cloth." But in those days there were no such things as feet and yards. The first problem was to find something to measure by.

In the beginning men had measured long distances by time. They had said that a journey would take two days or ten days; for they knew nothing of miles. Even today we do much the same thing when we say that we live "five minutes' walk from the railway station."

For shorter distances early men had used parts of their own body to measure with. A man would put his foot down beside a spear and count how many "feet" long it was.

Measuring Cloth by the Foot

We have measured by feet ever since. In trading for a horse, he would measure how tall it was by using his hands. And we still say that a horse is so many "hands" in height.

Other parts of the body were used, too, such as the thumb. Land was often measured by the length of a step. This was called a "pace." And perhaps nowadays you have seen a woman measuring a piece of cloth by holding it out straight from her nose with her arm stretched out at full length. She calls that a yard.

None of these measures was very good. One man's foot was long; another man's foot was short. If you were buying cloth, should you like to measure by a tall man's foot or by a short man's foot? If you were selling, which should you rather use?

If the thing that one wanted was a bronze knife, it was still more necessary to have exact measures. Even the difference between a big man's thumb and a little man's thumb would make a difference. A big man who was buying might say that the knife was fourteen thumbs long; so he should pay fourteen sheep for it. A little man who was selling might say that it was twenty thumbs long; that he should receive twenty sheep for it.

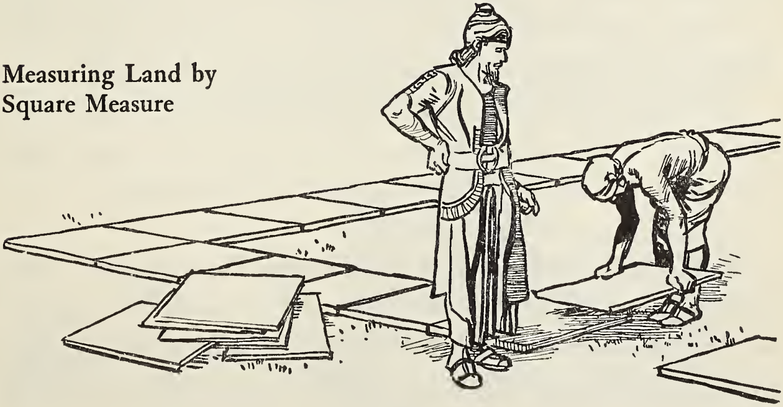
How many quarrels there would be! The king or his helpers would have to settle them all.

At last the king grew tired of settling so many quarrels. He decided upon a certain distance and said that should be called a "foot." Probably he used the length of his own foot. He ordered his workmen to prepare a piece of metal just that long. Then he made a rule that everybody must use that stick of metal to measure by. Men everywhere have used "rulers" ever since. One was found in the Temple of Karnak not long ago. It had been lost three thousand years ago by a workman who was using it to measure a wall.

The king decided upon many different kinds of measures. He or another king had them made up into tables like this: 4 fingers = 1 hand; 3 hands = 1 span; 2 spans = 1 cubit. Can you give examples of the kinds of tables that are in use today?

It is easy to see that anything which is straight can be measured by some kind of "rule" of length. But how could square things be measured—land, for example?

The people of long ago solved that problem by laying



Measuring Land by
Square Measure

off squares. They carefully measured off the sides of a square, being sure the corners were true. Then they could measure land by counting the number of squares it could hold. (See the picture on page 145.) The Egyptians had already learned to lay off a square corner.

How could liquid things, like oil or wine or milk, be measured? The earliest men had to guess at the amount. They would dip it out in shells or gourds, even though they knew that some shells and gourds are larger than others.

If you were trading wine that you had made, should you like to use a large shell or a small one? If you were the man who received the wine, which kind of shell should you like to use?

No one, not even a king, could solve the problem of liquid measures until the use of pottery was discovered. But after clay jars were made, a king took one jar to use as the "standard measure." Anyone who wanted to, could use the king's jar. Or anyone could have another jar made, just like the king's. Then he could measure liquids at home or in the market place.

That is the way that measures of length and measures for liquids came into being. What a help they were to the business world! The market place was no longer a place of much quarreling. There was less screaming, and fewer blows were struck. Trading became more peaceful.

Perhaps you have sometimes thought that it was hard to learn tables of measure. Now you know how much harder it would be to try to live without them.

How can the buyer and the seller weigh their goods? There were many kinds of goods that could not be "measured" in the ways about which you have just read. For example, you cannot measure dates or corn or cedar logs or ox-hides with rulers nor can you measure them in jars. Yet buyers and sellers of those things needed to be able to agree, too.

In the very earliest days, such goods were measured only by the "handful," the "heap," or the "load." That might do very well for cheap goods of which there was plenty.

But when metal came into use, things were not at all the same. The difference between a big man's handful of gold dust and a little man's handful might be more than either one of them could earn in a year. Some more exact plan was badly needed.

We do not know who found the answer to that problem. But somebody did; for both the Babylonians and the Egyptians used the same thing. It was the "balance."

A metal bar was hung from a cord or wire placed exactly in the middle. Small pans were hung on either end. When they were empty, the whole thing balanced perfectly.

The piece of gold that was to be weighed was put in one pan. Some kind of "ruler," or "measure," was needed, to put in the other pan. This would be the standard to judge by.

What could be used? It should be something that would show even a very small difference in weight; for even a tiny amount of gold is valuable.

Using a Balance for Weighing. A Gold Bracelet Is Placed on One Side. Seeds Are Measured Out on the Other Side until the Whole Balances

A thing that was used at first was the seed of a certain plant. All these seeds were much the same size. A man could say that his piece of gold was as heavy as 100 grains of rice, or 20 beans, or 10 barley corns. This plan was a fairly good one; it was in use a long time. To this day we call certain of our very smallest weights "grains." (This is troy weight.)

But it was a great deal of trouble to count out 100 or 1000 seeds every time one wanted to measure anything. If the article was very heavy, such as an oxhide or a cedar log, counting seeds would not do at all.

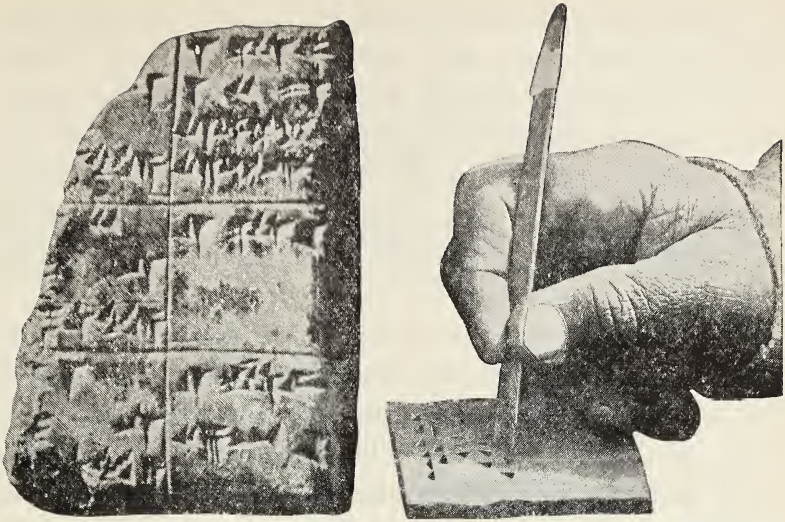
Again some clever man put his wits to work. He made a piece of metal that weighed exactly the same as 100 grains of rice. He made others that weighed exactly the same as 20 beans, or 10 barley corns, or 1000 grains of wheat, or any other measure in common use. Any of these metal "weights" he could put into one pan of his balance. They were always ready for use.

When a man came with gold to be weighed, the gold would be put into one pan. A number of the small weights would be put in the other until the two pans would balance.

If heavy articles were to be bought or sold, much larger weights would be used. Perhaps you yourself have seen scales with iron weights marked 1 pound, 10 pounds, and so on. You could put them on one side of the scales. You could put your packages on the other side and weigh them.

This plan for weighing goods was another great step ahead. Buying and selling were then much easier. There was still less quarreling.

The king named a man to be his "weighmaster." This man sat in the market place. Any person who believed that a balance was not weighing right could come to him for



The University Museum, Philadelphia

Stephen Langdon, director of Herbert Weld and Field Museum Expedition to Kish

A Cuneiform Tablet and How It Was Made

help. Then "the government" decided which weights were the right size. All the others had to be made exactly like those that the king chose as "standards." Business dealings were then more fair and honest than before.

Faster methods of writing: writing numbers. With so much business going on, it was necessary to keep many written records. Whatever was done would have to be done fast. A trader could not stop for careful writing.

Nor could the records be carved on stone. One reason was that there was very little stone in the flat country of Babylonia. Another reason was that cutting records into stone took too much time. Preparing papyrus was just as bad, or so the trader thought.

So the Babylonians used a material that they had plenty of. They used clay. They made it into little biscuits, or tablets, such as you see in the picture above.

Then they took a reed and sharpened it at one end. With this reed they made marks in the wet clay. These marks were picture writings of syllables. There were about five hundred different syllable-pictures that anyone had to learn if he wanted to write. Should you like to try that? Because they were wedge-shaped, the writing was called *cuneiform.* (That is what the word means.) It could be done fast.

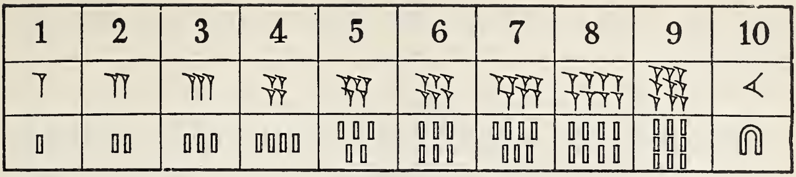
The tablets were then baked. The baked clay would hold the marks until it was crushed to pieces; thousands of the tablets have lasted to this day. A trader could keep them piled up on a shelf or in his ship, or even in the packs on a donkey's back. Because the cuneiform method of writing was so much easier and faster than Egyptian hieroglyphics, it was used all over western Asia.

Of course, the common farmers and the slaves did not try to keep records. They did not know how to read or write. But the priests and the scribes and the merchants used writing every day.

Business records were not the only things that were written in cuneiform. Poems, songs, stories, and works about religion were written on clay tablets also. It took many tablets to tell a story that could be written on one roll of papyrus.

In our own times some scientists have found the "libraries" of early Babylonians, Assyrians, and Chaldeans. The library was a room (or several rooms) lined all around with shelves. Each shelf was piled high with hard little clay tablets. Thousands and thousands have been found.

The Babylonians also had to learn to count very large numbers—up into the millions. They began, as did the Egyptians, by counting on their fingers. So they counted their numbers by 10's, 100's, 1000's, and so on. This is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How Different People Have Written Numbers. The Bottom Row Shows How the Egyptians Wrote the Numbers from 1 to 10; the Middle Row Shows How the People in the Land of the Two Rivers Wrote Them; and the Top Row Shows How We Write Them Today

called the *decimal system* of counting. The picture above shows you how such numbers were written.

The Babylonians also counted by twelves. Because they counted that way, we learned the same thing. That is why today we count certain things by the dozen.

They learned to multiply—a thing the Egyptians never could do. They made up multiplication tables, which have been found in their libraries. They had tables of division too.

Perhaps sometimes you have grown very tired of learning multiplication tables. Perhaps you wish no one had invented such things! But are you quite sure you wish that? It is not so very hard to multiply 387 × 26. But if multiplication had never been discovered, you would have to work such a problem by adding the long column shown at the right.

You would be very much interested in some of the clay tablets that have been found. They are tablets on which schoolboys practiced writing and multiplying many thousands of years ago. Do you suppose that any practice exercises of

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your own will ever be found many centuries after you are dead?

The use of seals. You have already found that each businessman marked his rolls and boxes of goods with his own seal. Of course, each man's seal had to be different from his neighbors'. (See the picture on page 142.)

So every important person gave a great deal of time and thought to planning his seal. It had to be made of very hard stone. Then it would not wear out even after stamping soft wax or clay with it for many years.

The seal had to be small enough to print on a single clay tablet, not quite two inches long.

The Babylonians were fond of using the figures of animals as their "sign and seal." Sometimes two animals faced each other, fitted into the small space with great skill.

These figures were not made like repoussé, raised above the surface. They were carved deep down into the stone. Then, when the seal was pressed down upon soft wax, the figures of the animals would come out in rounded form (relief). Try it yourself in wood and see how it is done.

The king's seal was usually set in a large ring that he wore on his finger. Every letter that he ordered written and every promise that he made, had to be marked with his seal. That showed that the message or record was really from the king.

Every government today uses a seal for the same purpose. Your city has one; your state has one; the United States has one. Can you find a paper stamped with the great seal of your city or state?

What is the best material to use as money? Most of the things that primitive men used as money had serious faults.

If wheat was used, it might get wet in the hold of a ship. Then it had no value. If cattle had to be driven a long way across the desert, they might die. Their money value was gone. Barley would be spoiled if it got wet. Shells could be broken. Colored feathers might be blown away. None of these were really good things to use as money. Something better was needed.

Some of the articles could not be divided very easily, and some could not be divided at all. For example, if cattle were used as money, what would a man do who wanted to trade for one small clay bowl? It was not worth a whole ox. Should he kill his ox and give only a leg or a neck? Perhaps then all the rest would spoil.

That question was never answered very well until the smelting of metal was learned. Then men found out that metal served as money better than anything else could. It did not wear out. It could get wet or cold or hot without being spoiled. It was much easier to carry about than goods like wheat or cattle. It could be smelted and then made into as small pieces or as large pieces as were wanted.

So the tribes that had metals in their homelands began to use them as money. They used gold and silver only for the more valuable kinds of trade. Many people lived their whole lifetime without ever handling any. For most business dealings the common people used copper or bronze or iron.

The metal, however, was not made into coins. Nobody had ever heard of coins yet. It was made into rings or bars or rods. Some of it was in the shape of hoes or knives or axes.

Perhaps you can see that there was one danger which had to be guarded against. A man who was not honest might take a bar of copper and put a thin layer of gold over it. The man with whom he traded might think it was a bar of real gold. He might not find out the difference until he was miles away.

The Babylonians solved that problem too. The man or the temple that made the bar or lump of metal, marked it with a seal. Then a trader would know whether or not to take it. If he knew the man or the temple to be honest, he would take the bar or lump in exchange for his goods. If the maker ever made one bad bar, people would no longer set any value on his seal. And if a bar had no seal on it, the person selling his goods could not tell who made it. So he would not take it. It paid a businessman to be honest.

A bar or lump of metal made by an honest man and weighed in an honest balance was a better kind of money than the world had ever known before.

The Babylonians called their bars, rods, and lumps of money by such names as "shekels" and "talents." You often find these words mentioned in Bible stories. Their money was so good that it was used all over the known world from India to the Mediterranean Sea. People who did not even understand one another's language could trade by means of these pieces of metal.

How to Keep Order among Millions of People

The great state of Babylonia had been built up by one small city capturing its neighbors. Then one larger city would attack the larger neighbor. Steadily this had gone on. By such means the city of Babylon had become the greatest city that western Asia had ever known. It ruled an empire. Its power reached all over the Land of the Two Rivers.

The king ruled over this empire. He alone made the laws. His nobles and priests helped to carry out whatever he planned. The common people were not expected to have anything whatever to do with the government. It was no business of theirs. They were only to do what they were told.

You can see that the life of the country was much like that in Egypt. There was order, but no freedom. The people perhaps did not miss freedom very much, for they had never had any. They did not know what it was like.

One thing, however, troubled the king very much. You remember that, among primitive people, *custom* had been the law. Everybody did what the members of his tribe had always been in the habit of doing. That had caused little trouble.

Now, however, the members of many tribes had been joined into one country—Babylonia. Each had its own customs and ways of doing things. Yet they now tried to trade with one another regularly. And they fought in the same army in time of war.

Because their customs were so different, the people of the different cities did not get along well. All the principal quarrels were brought to the king to settle. He grew very weary of deciding the same kinds of questions over and over for different people—what to do when two men claimed the same field; what should be done with a man's property if he died without leaving any children. Hundreds of such questions came to the kings to settle as the years went by.

In about the year 1920 B.C. the great Babylonian king Hammurabi grew tired of this trouble and waste of time. He decided to write down a set of rules to be followed all over his country. Some of the good old customs he would keep; the bad ones he would put an end to.

It was a great task. First he divided the questions into certain big groups: laws about business, laws about punishments, laws about travel and transportation, laws about the rights of women, and so on. There were 282 chapters in all.

In each one he wrote down rules to be followed by all the people. Sometimes he wrote down only the custom that had been followed ever since the time of primitive man. This was the *customary law.*

Sometimes, however, there was no old custom to follow. Then the king made a new law of his own for such cases. This was not customary law; it was *made* law. To this day we still have these two kinds of law.

Hammurabi had his whole collection of laws carved on great stones eight feet high. It was called the *Code of Hammurabi.* (Code means a collection, or group.) He had these stones set up all over his kingdom. Then people knew what they were expected to do.

For the first time in the history of the world a whole country then had a written plan of law. It helped a great deal to keep order among the people.

In the centuries that have followed Hammurabi's time other people have had to do the same thing. You will read about the Romans' code on page 297. In our own country today the laws are collected into codes, too. Our lawyers today think it is very hard work to make a code. How much harder it must have been for the first man who ever thought of doing such a thing!

If you do not agree that it is hard, try to make a collection of every single rule that is followed in your school. Can you make them into divisions, or kinds? You will find that even that simple kind of code is very difficult to make.

What Kinds of Buildings in a Country without Stone?

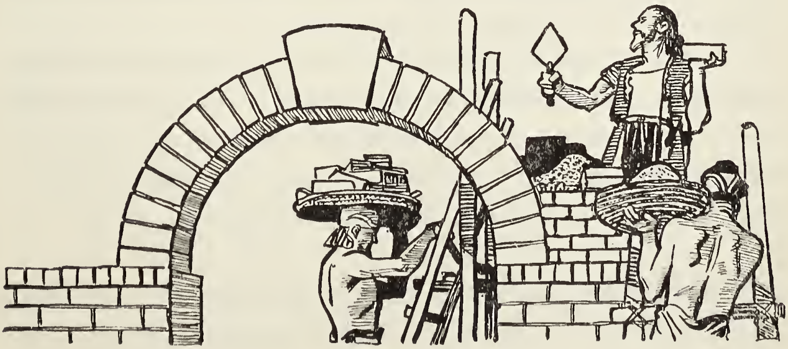
You have already been told that Babylonia was not like Egypt; it had little stone. Not even the temples for the gods could be made all of stone. What material, then, could be used? There was plenty of mud clay; so the Babylonians made it into bricks by drying it in the sun.

To make a large building like a temple or a palace, a brick platform was built on level ground. Stone steps in the center of each side led up to this platform. At the corners were *ramps*, such as are shown in the picture facing page 160. These were to allow horses to reach the building. Have you ever seen a ramp in your community?

The building itself might be several stories high, each one set farther back than the one below it. The thick walls also were made of sun-dried brick. On the roof there might be a garden with trees and flowers and grass. The famous "Hanging Gardens" that King Nebuchadnezzar built for his queen were on the roof and in the space left by the "setback" between the stories.

How to hold up a brick wall above doors and windows. The Babylonians had to find a new answer to the problem of

Making an Arch. Which Is the Keystone?



how to hold up the wall above a door or a window. They could not use Egypt's column-and-lintel plan because they could not get stone enough. Yet the sun-dried bricks themselves certainly were not strong enough to hold up a heavy wall after their support underneath was cut away for an opening.

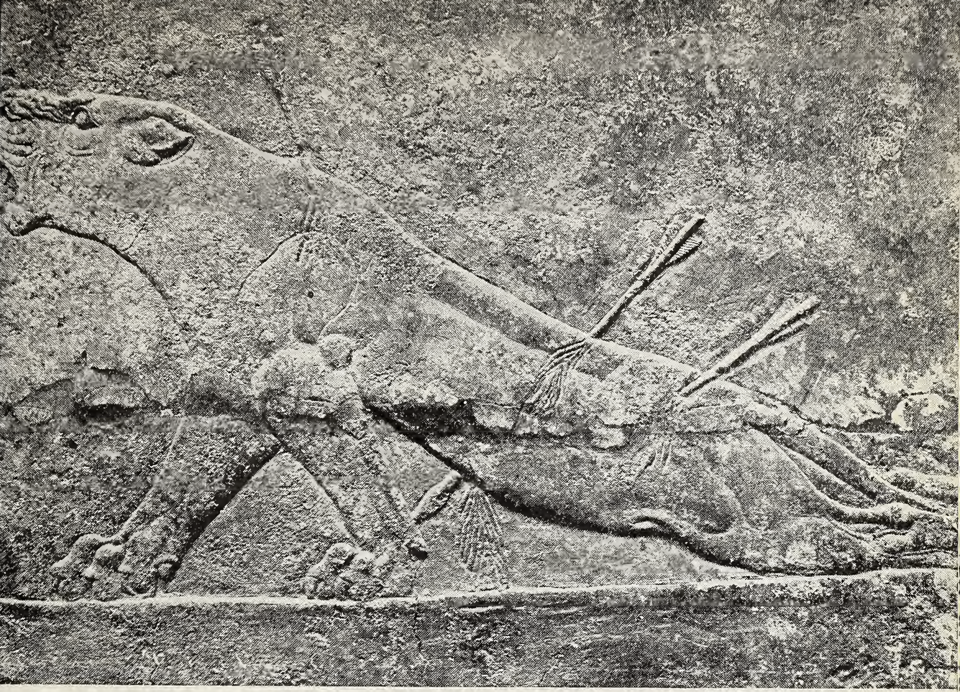
Their architects learned how to solve the problem. They discovered how to use the *arch.* They used ordinary-shaped bricks to build up the sides of the arch. Then as they neared the top they used wedge-shaped ones instead. Right in the center, at the top of the arch, they placed one brick that was much wider at the top than at the bottom. This was the *keystone.* The harder the wall pressed down upon these wedge-shaped bricks, the more solidly they were held together. That made them able to bear a very heavy weight from above. The side walls, however, had to be made very thick to bear the weight pressing from each side.

Ever since that time the architects of the world have been using arches to help hold up the walls above doorways and windows. Their use has been a great help to builders.

Of course, the homes of the common people had no such thick walls and graceful arches. They were square mud huts with a yard in front and a mud wall all around. There were no trees nor grass in the yard.

Like the good businessmen that they were, the Babylonians liked system and plan and order. They did not like to have houses set wherever anyone pleased to put them. So they began the practice of laying out their cities in blocks. Ever since, cities have been using that plan.

Assyria furnishes stone. Long after the time of Hammurabi the Babylonian world was conquered by people from the



British Museum

An Assyrian Carving of a Lion. The Lion Has Been Shot by the King's Hunting Party

north. They came from the land of Assyria. It was more wild and mountainous than the flat land between the rivers. Its people lived more simply. But they soon learned the civilized ways of the Babylonians. (See the map, page 104.)

Assyria had much stone. So the later kings delighted in using stone for their palaces. The Assyrian and Babylonian architects, however, could never use stone as well as the Egyptians could. They could not easily cut and haul enough to erect a whole building.

But the floor of a palace could be paved with huge blocks of colored stones set in designs like roses. And long rows of great stones could be set up along the hallways. One palace had nearly two miles of such stones. These were carved with the figures of men and animals. The Assyrian artists were very good at carving. Their figures of animals are natural and lifelike. None of the stiffness of Egyptian figures shows here. The movement of the animals is as free as the best modern artists can show. (See page 159.)

The Assyrians were a cruel people. Their carvings show this. They delighted in scenes of killing animals, of cutting off the heads and hands of prisoners, of running sharp stakes through the bodies of helpless men. No wonder that everybody hated them! No wonder that all the world was glad when their country was taken by its enemies!

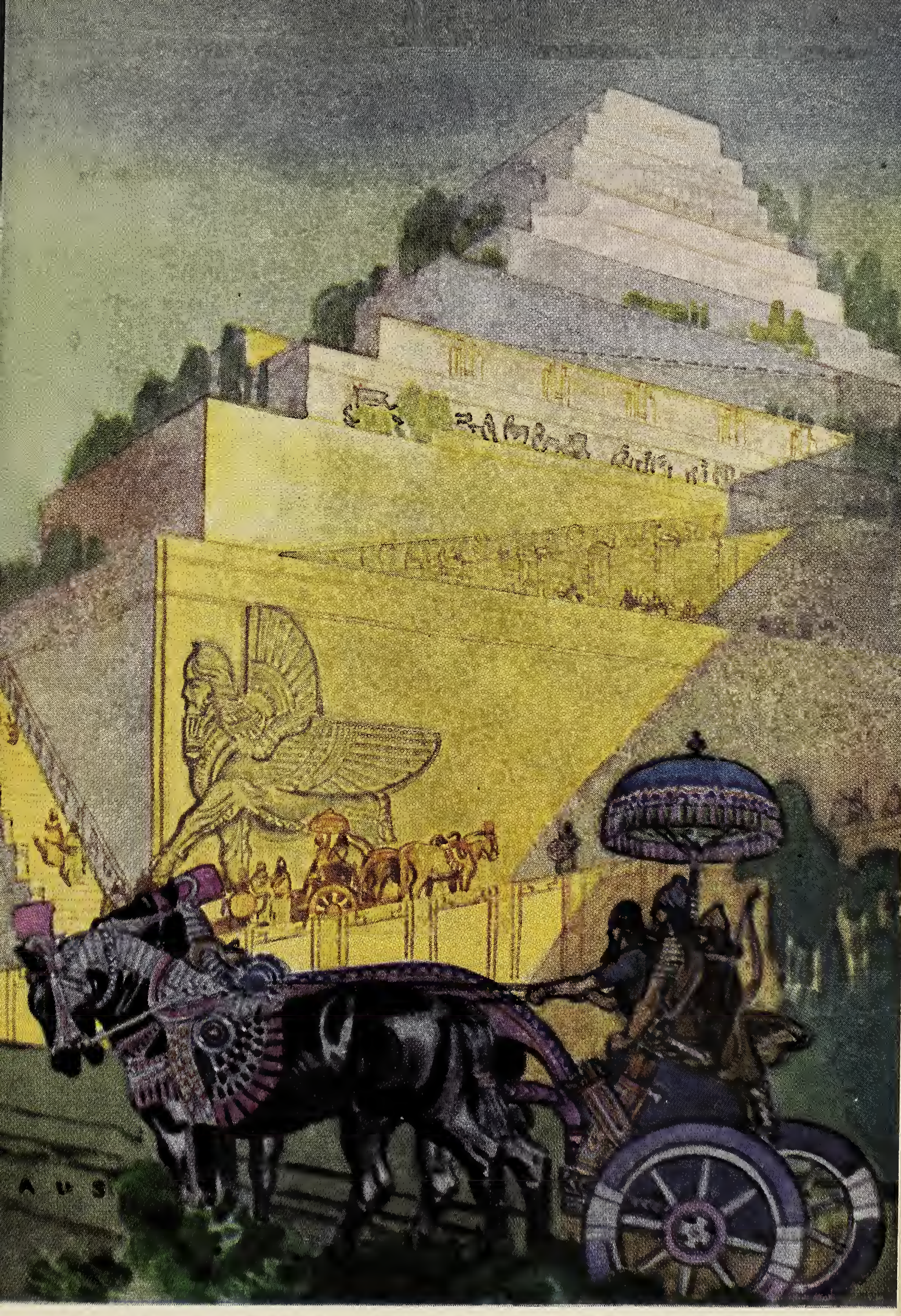
Decoration of Babylonian buildings. You may think that the Babylonian buildings of sun-dried brick were not as beautiful as the Egyptian buildings of stone. That is true; but they had splendid decorations.

The doorways or arches were outlined in colored tiles—green, yellow, orange, and blue. These tiles were often put together to form designs. One of their designs is often used today; it is called the "tree of life."

In sculpture both the Babylonians and the Assyrians liked to make giant figures of a winged bull with the face of a man. Such figures guarded the entrance to a palace.

The Babylonians were also the best gardeners of the world of long ago. Their rose trees and flowering bushes were watched with loving care. Every rich man took as much pride in his garden as in the decoration of the building itself. The great Assyrian king Sennacherib brought the cotton plant from India; he thought it was very beautiful.

Babylonian ruins. Today if you should travel to the Land of the Two Rivers you would be disappointed. You would not see the remains of wonderful buildings, as in Egypt. Why? The reason is very clear.



Nebuchadnezzar's Palace in Babylon. How Can the People Reach the Top Stories?

The sun-dried brick was not very hard. In that country it did not often rain, but rain came sometimes. And whenever the walls got very wet, some of the bricks would crumble. People had to be always repairing their houses.

After a man had repaired his house a certain number of times, there was not much use in trying to do so again. It was easier to tear the whole thing down, level it off, and build a new one on top of the pile.

That is what people did, century after century. The piles of broken and crumbled bricks at last made a huge mound. Then the people would move away and begin to build somewhere else. The mound would come to look like an ordinary hill.

Scientists today dig about in such mounds. (See the picture on pages 214–215.) Sometimes they find clay tablets and the traces of walls. If a palace once stood there, they may find stone slabs or stone paving or some colored tiles. But much less is left to show the life of the people than in Egypt.

That is why we know less today about the daily life of the Babylonians and the Assyrians than we do about the life of the Egyptians.

Adding to What the World Knows about Science

To make so much woolen cloth, the Babylonians had to raise a great many sheep. Night after night the shepherds had to spend out on the hillsides with their flocks. There was little to do; so they spent hours in watching the stars.

Like the Egyptians, they soon found that the stars move more regularly than anything else in nature. They learned where the different stars and groups of stars (constellations) are to be found at every season of the year.

They too made maps of the sky for the different seasons. The heavens above seemed to be shaped like a half globe. How could they measure exactly where a star should be placed in a half globe? To solve this problem they divided a circle up into parts called "degrees"—180 degrees for a half circle, 360 degrees for a whole circle. Then they could measure how far it was from one star to another in degrees. They found how many degrees the constellations moved in a season. Scientists still use this plan in measuring time.

They noticed also that there were some "stars" that were different from the rest. These did not remain in the same group as the stars moved across the heavens. They moved about. For that reason they were called the "wanderers." Our word *planet* means wanderer. The planets really are not stars at all.

The Babylonians knew five planets. They worshiped these, and also the sun and the moon. They had the habit of worshiping each on its own day.

Sunday was the sun's day; Monday was the moon's day; Saturday was Saturn's day; and so on. After seven days they began all over again. That is how the world got the habit of thinking about seven days as a group; this we now call a "week."

One reason why the Babylonians, Assyrians, and Chaldeans were so much interested in the stars was that they believed the stars

A Sundial. The Shadow Shows the Time

decide for us what our life is to be. Educated persons today do not believe any such thing.

The Babylonians used two things to help them in telling the time of day. Both of them had been used by the Egyptians. One was called the sundial. It had a face somewhat like a clockface; but this was placed lying down. The "hand," or "pointer," was a metal bar slanting out over the clockface. When the sun shone, this bar made a shadow. From hour to hour the shadow moved across the sundial. It told the time.

If the sun was not shining, a sundial was of no use. What plan could be used that would work even in the dark?

The following example will show what was done.

Two jars of water were arranged, one below the other. Tall jars were used, with a small opening at the bottom of the upper one. The water dripped out of the first jar and into the second. The opening was so small that the first jar, when filled, would empty itself into the second one just six times in a day. That meant that each filling lasted two hours. By looking at the amount of water in the jar, people could tell very nearly the time that had been reached in the two-hour period.

This queer "clock" was the first kind of clock in the world. We call it a "water clock."

Trying to Make a World-State

The kings of Egypt had already started a bad habit. They had tried to conquer their neighbors in order to get copper mines, forests of cedar trees, and supplies of slaves. Many times they had succeeded. You have read of the wars of Thutmose III and Rameses II.

When Babylonia became rich and powerful, her kings tried to do the same thing. Hammurabi was king over what had once been many separate cities. There were many wars between the Babylonians and the Egyptians.

In the north you have seen growing up the newer state of Assyria. Its people were not rich; their country could not grow such large crops as the land between the rivers. So the Assyrians always had to work hard. They were strong and were good fighters. Every man was a soldier. How different this was from Egypt and Babylonia!

The Assyrians had something that no other people had used up to that time. This was the war chariot drawn by horses. Sharp knives were fastened to the wheels. When these great chariots came thundering into battle, the horses running at full speed, the men from the plains broke their lines and ran away. They could not stand up before such terrible things.

The Assyrians had one other thing to help them. They had iron weapons. The Babylonians and Egyptians still had nothing but bronze. You know what that would mean.

We call a state in which most of the men are fighters a *military state.*

You can guess what happened to Babylonia. Over and over again in the world's history the same story has been repeated. A rich nation grows lazy. Its people no longer want to work. They depend on the labor of the lower classes. They no longer care to do their duty as good citizens.

A younger, less civilized people live near by. They are used to hard work. They want the riches which the older nation owns. The "have-nots" attack the "haves." And because their people are strong, fierce fighters they often win.

A Street in Nineveh. The Winged Man-Headed Bulls Guard the Entrance to a Palace

The Assyrians conquered the Babylonians. Then they did not want to stop. They wanted to go on until they reached the Mediterranean Sea. If they could do that, they could control all the trade of the Fertile Crescent.

So they attacked country after country. They conquered them all. They conquered even Egypt. You have already read about their cruel treatment of those whom they conquered. They conquered most of the world that was known at that time. Assyria was the first *world-state.*

Did the Assyrians then keep on with their hard work and their simple ways of living? They did not. Instead, they learned to live in the same rich way that the Babylonians had done. Their capital city, Nineveh, was made as great and beautiful as the city of Babylon had been before. Its walls were seven miles around. Its people soon grew soft and fat with easy living.

That was what the conquered countries had been waiting for. One by one they rose against Assyria. One by one they tore themselves loose from her. At last Nineveh itself fell. The Assyrian world-state came to an end. You read on page 160 how the other states felt when that happened.

Over and over again you will find the same thing happening to a military state which tries to make itself conqueror of the world. No world-state has lasted.

The Land of the Two Rivers Today

What took place in the Land of the Two Rivers after that? Much the same thing that happened in Egypt! The country was conquered in turn by the Persians, the Greeks, the Romans, the Arabs, the Turks. In between times civilization fell very low. The great buildings fell into ruins. All the people once more lived in one-room mud huts.

The irrigation works were not kept up, because no strong power could take charge of them. What had once been as fertile a land as any in the world, turned to a sun-baked dry plain.

Today that country is once more independent. It is called Iraq. Its king and its leaders are trying hard to make it prosper again. They are building roads and irrigation ditches. They are teaching the people to farm instead of making all their living by sheep-raising. These things cost much money. The country, however, now has more wealth than it had in the dark days. Oil has been found there. The oil is paying for the irrigation works.

But oil also causes trouble. Many other countries would like to get such a rich supply. The future history of Iraq is likely to be troubled, just as the history of the Land of the Two Rivers has always been since the beginning.

To Talk About

In what way is it a good thing to live between two settled countries? In what way is it a bad thing?

Which is greater—the difference today between the life of a rich man and the life of a poor man, or the difference between the life of a rich woman and that of a poor woman?

Does your own community export any goods?

What is a "trade-mark" that we use today? Can you bring to class some pictures of trade-marks? In what way are they like the Babylonian seals?

Is your life today harder because you have to learn so many tables of measures and weights?

Why do we think today that only the government should manufacture the pieces of metal that we use as money?

Why do we think it is better to have all the people take part in making the laws rather than to have one man do it?

Why is it not wise to treat a conquered people cruelly?

Do people today ever try to "tell fortunes" by the day on which they were born? Do you consider such people ignorant? What do scientists think about this?

Is the United Nations like a military world-state?

To Do

Find out at home whether your own family ever learned anything of value from its neighbors.

If there is a brickyard near your home, your class might visit it.

Can you make a repoussé design in tin foil? A visit to the silverware department of a store may give you some ideas.

Would you like to design a seal for yourself?

Bring to class the kind of bill used today in selling goods.

Learn to weigh yourself on scales. Do you weigh more or less than you should? What can you do about that problem?

Can your class help to keep order in the school halls as well as in your own room?

Can you make an arch with a set of building blocks?

Take a walk about your city to look at the use of arches. Can you see the keystone in any of them?

Can you learn to find any of the planets in the sky? any more of the constellations besides that mentioned on page 135?

People Who Gave Us Ideas Rather than Things

You have found that the Babylonians sent traders westward as far as Egypt. Do you suppose that they traveled eastward too? Indeed they did.

A glance at the map will show you the routes they could follow. They might send their donkey caravans along the seashore. After fifteen hundred miles they would come to the great valley of the river Indus. Or ships might sail directly down the Persian Gulf and across the Arabian Sea.

What kind of country would the traders find there? It was a very large country, almost as large as Europe. Today we call it India. On the north are the highest mountains in the world. In those days few people tried to cross them. For that reason India had little to do with China for many centuries.

The rest of the country was much cut up by mountains. It was the home of many states. Some were large and some were small. The people living in the valleys of the Indus and the Ganges rivers became civilized before the others. They raised rice and a kind of wheat.

Many Peoples and Races Mixed

What kind of people did the traders find living in the many states of India? So many kinds that we cannot even name them all. Today one hundred and fifty different languages are spoken in India.

Some of those tribes were black; they had probably been there the longest. In very early times they had been pushed out of the river valleys and up onto the hillsides.

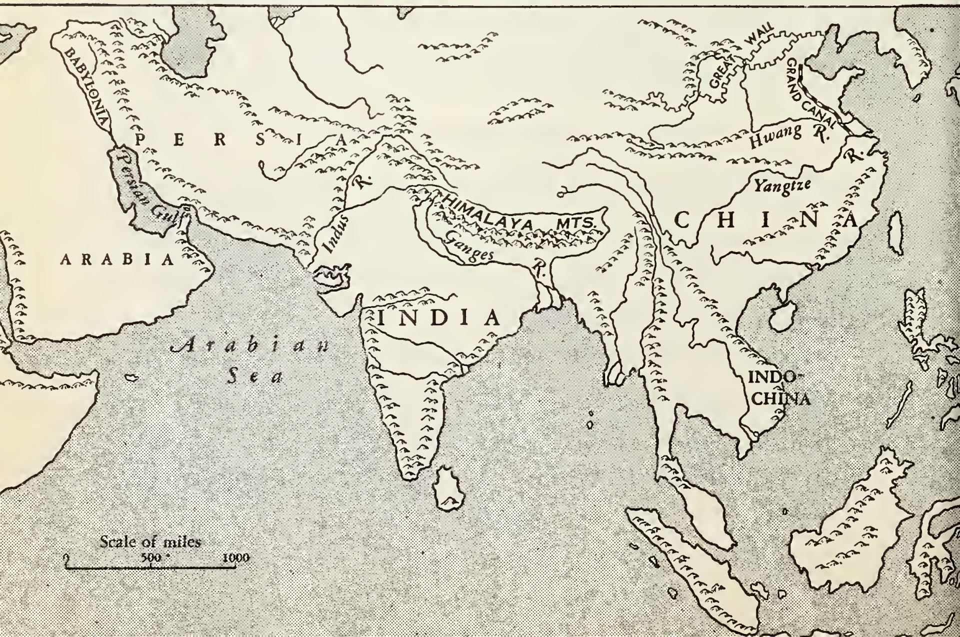
Others were white tribes. We do not know much about them. Scientists today have only begun digging in the ruins in India to learn about the early tribes. But they have already found that the Babylonians had spread their ways there.

Not all the ways of living were borrowed. Some of the people's own customs were such things as burning the bodies of the dead. The world of today has lately turned back to that habit. And very probably the chicken was first domesticated in India.

Another group of white peoples there must have been relatives of our own. For they spoke the same kind of language—namely, Indo-European. Their branch of this language was the *Aryan* branch. Today we call those people Hindus. They were already well ahead in civilization when they wandered south of the mountains.

The Hindus settled down in little agricultural villages. Each village was ruled by a group, or council, of older men—much as you saw primitive men ruled. To this

The Ancient Lands—India and China



day the agricultural village has remained the center of Hindu life.

Some of their customs seem very strange to us, as ours must seem strange to them. Some of their little girls were married as young as ten, eight, or even six years of age. Sometimes they remained in their own homes until they were grown up. Sometimes they moved to the husband's home at once. The husband also might be only a child, or he might be a grown man.

As in Egypt and Babylonia, it was not long before one village would want to conquer several of its neighbors. The headman would then call himself a raja. Or if he conquered very many of the small states, he would call himself a maharaja. Many of these princes' states have lasted.

But the land was too big to be united into one state. To this day there is no single country named India. What we call India is made up of Hindustan and Pakistan and the princes' states.

Not all the tribes and the states were friendly to one another. So we have already found out two of the greatest problems of India today. (1) The different peoples do not get along well together. And (2) the states will not unite.

For a thousand years after the coming of the Hindus no other new tribe entered India to live there. The Hindus, the white people, and the black people had time to work out their ways of life. Their customs changed little during all those centuries.

The Aryan Language of the Hindus; their Religion

Our own fathers did not make up great stories and poems nearly so early as did our relatives the Hindus. And the Hindus, we must remember, did not live nearly as early as the Egyptians and the Babylonians. Neither we nor our relatives made up the world's first great stories.

When the Hindus entered India, they had no writing. So their poems and stories were told and sung by father to son during many centuries. They had to be learned "by heart"—even the one that was a hundred thousand lines long. That is nearly eight times as many lines as there are in this book!

Today some grown people study this old language. They call it Sanskrit.

The title on page 169 told you that the people of India gave us ideas rather than things. What were these ideas about?

One of their chief interests was religion. It was as important to them as how to earn a living. The Hindu religion taught first of all that the Hindus must love all persons and all things. They must make themselves do only the good; they must destroy whatever was bad in their own hearts. Does that not sound much like our own teaching?

We call their religion the Brahman religion. Most of the Hindus today still believe in that religion. They have lived a long time among many peoples and many races, all of whom they were commanded to love. So they were the first people in the world who learned to *bear* with other people's religion instead of trying to *change* it.

The Brahman religion taught that as long as one came to know God, the road that he traveled on that journey was not important. This was a very different idea from that of the Egyptians or the Babylonians—or of many people today! For many of us feel very certain that we are right and everyone else is wrong, and that we must change the other people. The people of the world do not yet really bear with one another's religion very well.

The head of each upper-class Hindu family was the priest for his family. Each father taught his son all the long speeches to make and all the things to do. It took years to do this. So the Brahmans (or priests) became the highest class in the Hindu world. There was no way for an outsider to enter this class. One had to be born into it—or remain outside.

The next class was the soldiers. Here too the son had to follow the father.

The farmers were the third class. And very good farmers they were, too. They could own the land. They learned to dig great ponds or lakes to store up water during the rainy season. Even to this day every agricultural village in India has its pond.

Merchants were not considered equal to the priests, soldiers, and men who owned land. And businessmen still are not much respected among the Hindus.

Artisans, and other workers with their hands were the lowest class. Their houses were simple one-room mud huts. They had little hope in this world or for the next.

But there was a class even below that. These outsiders were "outcastes." Perhaps in the early days they had been of a different race. They were allowed to do only such work as the other classes did not like. They had to live out on the edges of the cities. Brahmans would not touch them, or speak to them, or even enter the same building with them.

Already in Egypt and Babylonia you have seen the people divided into classes. But nowhere else were the classes so completely fixed as in India. If you were born into a certain class, there was no hope of escape from it. You might become rich; you might become famous; you might do some great service for the maharaja. But there

A Brahman and Other Castes in India

was no way under the sun by which you could rise from a lower class into a higher one. Such a plan is called a *caste system.*

Today people sometimes say that there is a caste system in the United States. It is true that we have some classes that are rich and some that are poor. But in our country a boy or a girl may rise in life if he or she is clever and honest and will work hard. There is no law against it; and American custom lets such a thing happen.

The First Religion to Spread All over the World

The life of the poorest classes in the states of India was sad indeed. Our poor people today are much better off.

How could the life of the poor be made happier? Many Brahman leaders had been thinking about that for a long time. One of them at last found "The Way." So he was called the Buddha ("the one who has found the light"). He lived about six hundred years before Christ.

The Buddha taught that what people own in this world is not important. People must give up wanting to own things, for selfishness is the greatest of all evils. When people stop wanting things, they find peace for the soul.

People should work for only the simplest things, such as a little food and the necessary shelter. There should be no classes and no castes; and women should be treated as well as men.

The Buddha spent many hours in deep thought about these matters. His followers too spent much time, sitting perfectly still and thinking very hard. Buddhists do that to this day.

The teaching spread fast through all India. (Why do you suppose so many members of the lowest castes were glad to learn it?) Then it spread north over the mountains to China. It spread east over the islands in the ocean. It spread west, clear to Egypt and the Mediterranean Sea. That was as much of the world as was known in those days. So Buddhism may be called the first world-religion. It is still very widespread. There are 30,000 Buddhists in the United States today.

Great temples were built in honor of Buddha, and many services were held in them. In these services the priests used altars, candles, flowers, singing, holy water, and the tinkling of bells. Does that not sound much like the services in some of our churches today? And you must remember that all this was centuries before Christ was born.

Later People Enter India

Now we are going to pass over many hundreds of years. We shall see what was going to happen long after the time of Buddha.

© Screen Traveler from Gendreau

The Great Temple at Boro Budur, in Java. Can You See the Many Decorations?

In Unit Three you will find that the Greeks came to India and that the Romans carried on trade regularly with the rajas.

About 250 B.C. a great king ruled over one of the large northern states. His name was Asoka. He was a good soldier who conquered the country from the Indus to the Ganges. Then he decided that was enough. He did not want more, although he could easily have conquered more.

King Asoka settled down to live in peace. He spread the Buddhist religion to the countries mentioned on page 175. He built many splendid temples. He made roads, dug wells, planted trees. He brought in more than seven hundred plants from neighboring countries. The habit of crushing the stalk of the sugar cane in order to use the dried juice was spread throughout the land. Few of the great rulers of the world have ever done so much for their people as Asoka did. Many of the arts that we shall mention later grew up during his time.

Very much later (hundreds of years after Christ) another people came down from the north and conquered India. They were the Mongols. You will read about them in Unit Four. These Mongols, in time, accepted the Mohammedan religion (see page 321).

Ever since, many Mohammedans have lived in India. Their part of India is now called Pakistan. They do not get along well with the Hindus. One of the hardest problems to solve today is how the Hindus and the Mohammedans can learn to live and work together in peace.

The Arts of India

The Buddhists were great builders. They built temples all over southeastern Asia and in the islands. They built places where men could go off by themselves to spend their lives in the duties of religion. These places were called *monasteries*.

The great temples and monasteries of India were very large. You can see in the picture on page 176 how lines are repeated—curve upon curve, story upon story—so that the eye is led on and on.

Only the richest materials were used; some buildings were all of white marble. Every inch of space was covered with decorations. There

The Great Statue of Buddha at Kamakura. How Can You Judge Its Size?

Ewing Galloway

were carvings of animals, birds, plants, flowers, men, together with many curved lines. The effect seems to us to be almost too rich and crowded.

Sculpture in relief was not the only kind used. Of figures in the round, statues of Buddha were the favorite subject. He was usually shown seated on a lotus plant, his hands folded, his eyes closed in deep thought. Can you feel the peace of that pose?

The buildings of the Mohammedans were quite different. One of theirs, the Taj Mahal, has often been called the most perfect building in the world. It was built by a Mohammedan king as a tomb for his beautiful young wife.

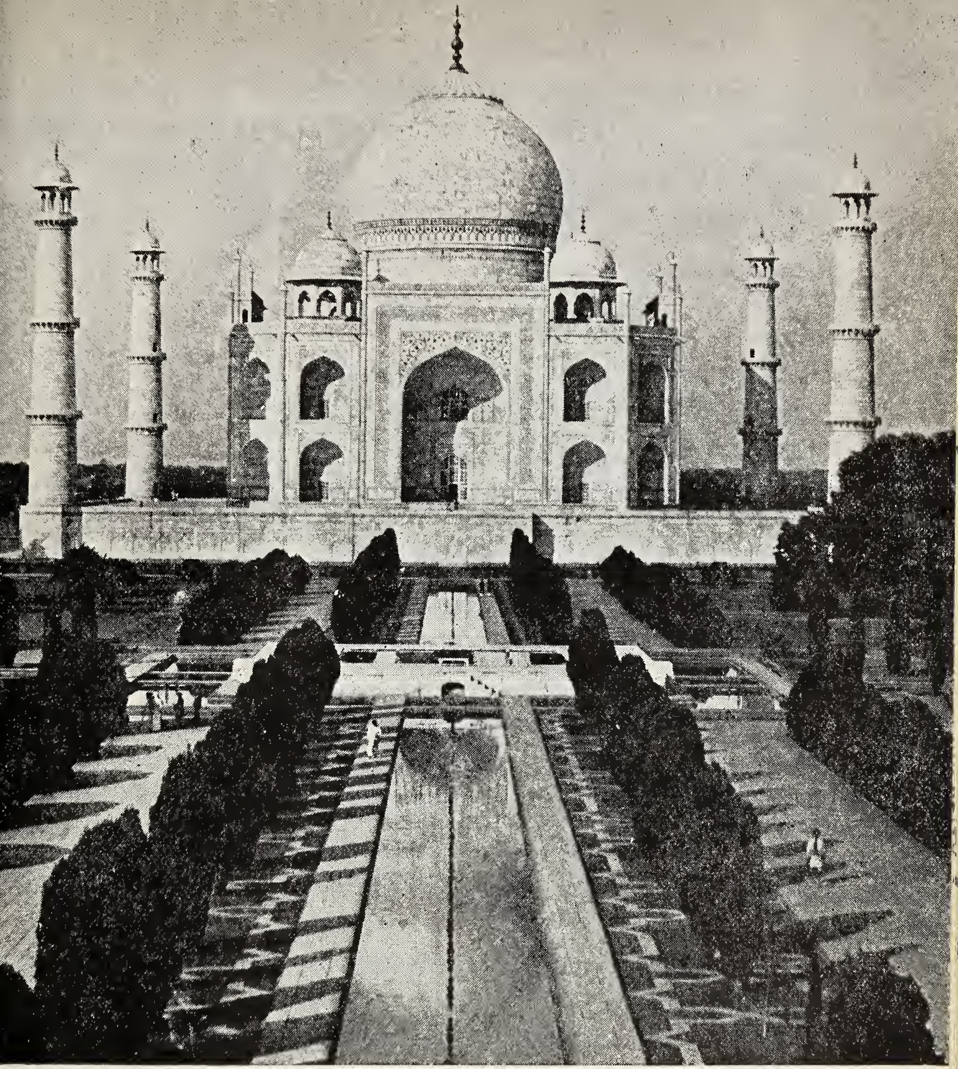
Not many paintings have been found; so we know little about this art in old India.

In the making of jewelry, however, the artisans of India have not often been equaled. In their country were many jewels—rich-red rubies, deep-green emeralds, and enormous diamonds. In the Persian Gulf and near-by waters could be found the world's largest and most perfect pearls.

The artisans cut the stones to a smooth, rounded surface, which glowed with color. The settings that held them were very rich. The Indian princes of today still have the world's most beautiful jewels.

For weaving, the people of India liked cotton better than any other material. Their muslin was so thin that it looked like lace. Their gauze was so fine that a breath could lift it. Of course, all this cloth was handmade; our machines today cannot make anything so soft and fine. Many of our words for other cotton goods also are taken from Indian names, such as calico, chintz, bandanna.

Wool was used, too. In the valley of Kashmir it was woven into shawls; so we call such a product a Kashmir shawl. Any woman who owns one today is very proud of



Black Star

The Lovely White Taj Mahal. The Shah Thought It Was Beautiful Enough for a Tomb for His Beloved Wife

it. The finest ones were so soft that they could be pulled through a finger ring. Another thing that was highly prized was a famous perfume called "attar of roses." It was worth its weight in gold.

The Hindus were the most skilled of all these older peoples in dancing. Every movement of a dance was studied until it was perfect. Then it must never be changed. All southern Asia felt the beauty of these dances.

Help for You in Working Arithmetic

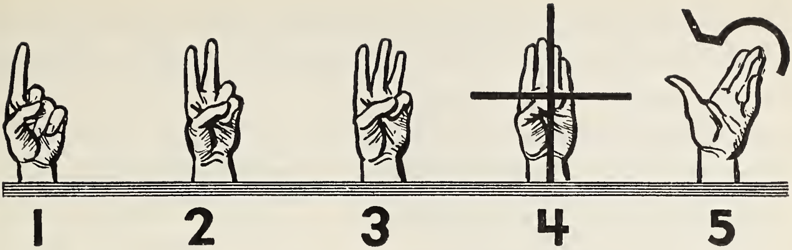
The people of India did something else for you besides finding out how to weave cotton. They helped you to work your arithmetic problems.

In Egypt and Babylonia, you remember, only the priests could solve problems. The traders knew how to do simple adding and subtracting. But for other kinds of problems they had to call on the priests. Nobody had yet dreamed that the time would come when a common, ordinary person could "do" arithmetic.

How did the people of India help you? One way was to find a simpler and better way of writing numbers. On page 151 you have a picture of the Egyptian and Babylonian ways of writing numbers. Would it be easy to add 7 and 3, or 5 and 5, if you had to use one of those ways of writing the numbers?

We are not sure how the people of India came to find a better way. Perhaps their figures grew out of lines drawn to stand for the fingers and hands. The drawing on page 181 will show you how this may have come about.

We call the figures 1, 2, 3, 4, 5, 6, 7, 8, 9 (together with 0) *Arabic* figures. The system of writing numbers by using these figures we call the *Arabic* system. But the Arabs did not discover the system for themselves; they borrowed it from India. The people of Europe did not learn to use it until about the time that Columbus discovered America.



How Our Arabic Numerals May Have Begun

India of long ago gave you even more help in solving your arithmetic problems. We might explain the next point this way:

Suppose that someone should ask you, "How many things does the figure 5 stand for?" You would perhaps hold up one hand, point to your fingers and thumb, and say "That many." "Are you sure it always means just that many—no more and no less?" "Oh yes, quite sure."

Let us see. In the number 54, does the 5 still stand for five ones? No, this time it stands for 5 tens, or fifty. In the number 568 the 5 means five hundreds. In the number 5946, the 5 means five thousands. Can you give an example of your own, of the same kind?

So you will have to change your mind. What a figure like the 5 in 54 or 568 or 5946 means, depends on its *position*. What is the position of 5 in each of these numbers?

The discovery of how to use the same figure in different positions was a great help. Even fourth-grade children can see that the *right-hand place is ones*; *the second place from the right is tens*; *the third place from the right is hundreds*; *the fourth is thousands*; and so on. It is very easy to write any number that way. This is one of the greatest *ideas* any people ever had (*using a ones place, a tens place, and so on*).

You see that the people of ancient India gave us one of our most important ideas: *the value of a number depends on its position.* No other people before had ever used numbers that way. But today you can easily work with columns of ones, tens, and hundreds.

	Tens	*Ones*
A	7	
B		7

The people of India helped you work arithmetic by making one more important discovery. We shall explain it this way:

Suppose that you lent a friend some money. He would want to make a record of it so that he could pay you back someday. The sum was seven tens of dollars. (How much is that?)

He ought to put the seven in which column? (See *A* on the table above.) But suppose he made a mistake and put it in the ones column instead. (See *B*.) When the time came to pay, he would think he ought to give you only seven dollars instead of seventy. Would that make any difference to you? It certainly would.

A man would not be so likely to make a mistake if he had both ones and tens to write, such as 78 or 76 or 77. (See the table on page 183.) But it would be very easy to put the even tens, hundreds, and thousands in the wrong place. So the people of India invented the use of *zero*. To write only 7 they did not need it. But when they put a 7 in the tens place and had no ones to write, they put a zero in the ones place to hold that place. (See page 183.) Then they would not be so likely to make a mistake. When they wanted to write seven hundred in figures, they put a 7 in the hundreds place, followed by two 0's as place-holders. Then they would know that those places were filled up, and that the 7 was not 7 ones nor 7 tens but 7 hundreds.

The use of zero cut down the number of mistakes very greatly. With its help the people of India could do good work in arithmetic hundreds of years before the people of Europe could. They made it easier for you to learn your arithmetic lessons.

Hundreds	*Tens*	*Ones*
	7	8
	7	6
	7	7
		7
	7	0
7	0	0

Because of their help a school child can now work problems that the best-trained men of long ago found it hard to do because they used other systems of writing numbers.

To Talk About

Why has all of India never been made into one state?

Why do some people think it is better to burn the bodies of the dead?

Does bearing with other religions mean that you should give up your own?

Are there any castes in your town?

Why is selfishness a great evil?

Which of the Brahman and Buddhist ideas do you think are good?

Would many kings be willing to stop if they could conquer more land?

Can you think of any reason why the people of India liked cotton better than silk?

To Do

Find a map of India today and notice the number of different states shown.

Can you find in an encyclopedia a picture of Sanskrit writing?

Do you bear with your classmates' religion? Is there anything that you should stop doing, in order to make them feel better?

Compare stones in jewelry stores. Some have a smooth, round surface; some are divided into flat surfaces called facets. Which do you like better?

Go to a jewelry store to see pearls, rubies, diamonds, emeralds. Which cost the most? Which do you like best?

Can you collect samples of the different kinds of cotton cloth mentioned?

One of the Oldest Civilizations on Earth

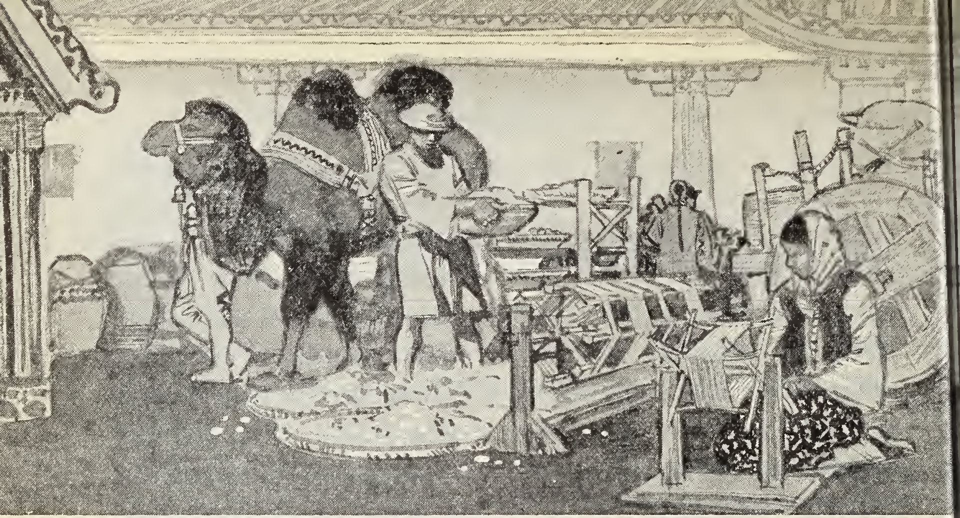
North of India lay a little-known land—China. It was even larger than India. The different parts were so far from each other that a man from the north could not understand the language of a man from the south. These were not parts of one single country. There was no such "country" as China; but there were several states. The land was divided up among many tribes. Some lands in the south were hot and damp. Some of the plains in the north had winters that were very cold. Yet we call all the people "Chinese."

Those people are the first in our study that do not belong to the white race. They belong to the yellow race. Even their language is strange: most of their words have only one syllable. We shall find it harder to understand them than to understand the Egyptians, the Babylonians, or the peoples of India.

Beginning to Unite Northern China

Very early, some tribes settled down along the valley of the Hwang (or Yellow) River. These people were tall and strong; their skin was light-yellow. They were good farmers. They used fertilizer, which none of the other peoples had yet learned to do. They also irrigated their fields and raised much grain.

These old tribes, however, made one bad mistake. They cut down too many of their trees, to use for firewood or for building. So the soil was not protected by leaves as it had been in the beginning. Floods and dust storms caused much trouble.



Chinese at Work

Yet the population increased very fast. Villages spread farther and farther until they reached the seacoast at the east.

At the west the Turks were their neighbors. From them the people of the Chinese villages learned to use horses and camels. They learned to weave woolen cloth. And they learned to use the hair of animals in order to make felt. This was a good, warm material for tents and boots.

In very early days these Chinese also learned to unwind the cocoons of the silkworm and to weave the fine threads into silk. They dyed the threads in beautiful colors.

How the people lived. To the Chinese the family was more important than any other group. In the family were the grandparents, the parents, and all the children. The sons and their wives remained with the old father until the group was too large for the farm to support it. The father controlled them all—even the grown sons. They all paid him great respect. This family had a "family name," as

side a Compound

well as each person having his own first name. No other people had yet started that practice. Today we all have a family name, or *surname*.

The Chinese home was built in the form of a square, with buildings around an open place. The outside wall had no doors nor windows—only an entrance gate. At night the cattle could be driven inside the courtyard. Then the family and all the things that it owned were safe. Such a group of buildings we call a "compound" today. They are still very common in Asia.

The family decided all quarrels among its own members. It did a better job than policemen and courts do today. There was no need to "go to law." Each person was taught his duty to all the others. From babyhood on, he was given very strict training as to right and wrong. Perhaps the ancient Chinese succeeded better in such training than most people do today.

The love of home was very deep-rooted among them. To be sent away from his home and his village was worse than death to one of them.

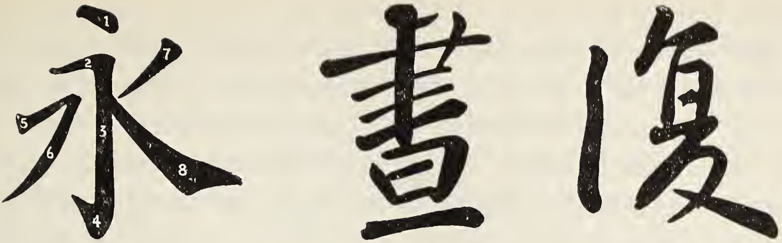
Great respect was paid to parents even after their death. People liked to believe that the spirits of their parents came back to watch over the family. The names of their parents and grandparents were written on little strips of wood. These were kept in the place of honor in the house. Offerings were set before these tablets in order to get help when needed. Such worship became part of a family's duty. No good son would dream of not doing this duty. That is one reason why the Chinese did not like change, and why their civilization lasted so long.

Very early the Chinese learned to cast bronze. They used it for jugs and jars. With the passing of the years a sort of gray-green crust formed on the outside of the bronze. This we call a *patina*. It is so beautiful that our manufacturers today often paint a sort of patina over their bronze goods.

Great bells were also cast for the temples. Some of them were ten times as tall as a man. They were struck with a large wooden hammer. Their tones were wonderfully sweet. Our bells cannot compare with them in beauty of tone.

The pottery made by the Chinese was finer than most people knew how to make. Very early they made strong, simple pieces covered with a greenish brown glaze. Each family of potters did a special kind of work and had one special kind of glaze or decoration. The pottery was made to order, as was the case in Egypt.

Later they learned to add a kind of stone to their fine white clay. It would melt when the clay was baked in a very hot oven. This formed a fine glaze which ran all over the surface. It filled up the tiny holes which can be seen on rough pottery. The surface was then smooth and shining. Such ware is called *porcelain*. Because the Chinese taught the people of Europe how to make it, to this day we call our fine dishes "china."



These Are Samples of Fine Chinese Writing. The Figures on the First Sign Show You the Eight Separate Brush Strokes Needed to Make It[1]

Chinese writing and printing. The Chinese used picture writing for syllables, as the Egyptians and the Babylonians did. There were hundreds of such signs to learn. These were written with a brush and ink, and were very difficult to make. (Look back at the colored picture at the front of your book.) It took so many years to learn them that very few people were ever able to write.

At first the educated men wrote on strips of wood. But they soon learned to make real paper, by beating the stalks of plants together. This was then rolled flat and dried. Such paper was easier to make than papyrus, but did not last so long.

The Chinese had great respect for writing and even for the paper on which the writing was done. When people from Europe first visited their country in our own times, the Chinese thought they were very careless and ignorant. They would tear paper to bits and throw the pieces on the ground. The Chinese never did such a thing.

These were the first people in the world to learn how to print. At first they only carved a flat stone with the figures of animals or birds or plants. They rubbed a cake of moist

[1] From Driscoll and Toda, *Chinese Calligraphy*, The University of Chicago Press.

ink over the carving. Then a piece of paper was placed carefully over the figures; it was smoothed down evenly. That left the outline of the figures on the paper. In this way was made the world's first printed picture.

Of course, picture writing could be carved in the same way. The Chinese began by carving each picture syllable on a separate little square of stone. Several of these squares could be put together to print anything that they wanted—a poem, a story, even a newspaper about the king's doings.

Then they found that it was easier to carve the picture syllables on little blocks of wood than on stone. These were much like the children's letter blocks that you played with when you were small. The Chinese used them to make regular books printed on paper and with folded leaves. This kind of printing is called *block printing*. You know that it takes a long time to print a sentence in this way.

At last they learned to make metal molds in the shape of all the syllable signs. They would melt metal and pour it into these molds. In this way they could use the same mold over and over again. They could cast as many signs for "father" or "mountain" or any other word as they wanted. Then they could print a whole page at once.

Such little signs made of molded or cast metal are called *movable type*. The people of Europe did not learn to use movable type until hundreds of years after the Chinese did.

The Great Teacher of the Chinese people. Some of these early Chinese were very wise men. One of the greatest we call by the name Confucius. (That is not what his own people call him.) Twenty-five hundred years ago[1] he set out to teach his people their duty to one another. He taught them to work together well. Do you think that our own nation has learned that lesson well even yet?

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[1] This was the same century in which Buddha was teaching his religion to the people of India.

Confucius gathered together five books of wise sayings. Some of them were his own, and some were still older sayings. Every man in China can repeat many of these rules "by heart." Some educated men can repeat all the five books.

Confucius taught three things: (1) Man must be good, even though he is not rewarded. (2) He must be true to his government. (3) He must honor his parents and help to make his home a good place in which to live.

Here are a few of his rules:

If you can get along with your neighbor, the world as a whole can get along.

What you do not want done to yourself, do not do unto others. (Notice how much like the Golden Rule this is.)

Even the poorest man can be taught to do right.

If you do not trust a man, do not let him work for you. If you let him work for you, you should trust him.

Confucius taught his people to love peace and to hate war. Ever since, the Chinese have fought only when they had to. He taught that good manners make life more pleasant. And to this day the Chinese have perhaps better manners than any other people in the world. Even the poorest workman behaves with great dignity. To be rude is frowned upon.

Perhaps no other person in all history has taught so many people through so many centuries as this old Chinese wise man—the "Great Master."

Beginning to Unite Southern China

During all these years, what was happening in southern China? Much the same thing as in the north.

Very early, tribes had settled down in the fertile valley of the river Yangtze. These people were not like those in the north: they were short, and their skin was darker in color.

The place proved to be excellent for the growing of rice. Enough for a family could be raised on as little as three acres. There was rice enough to export.

So the southern Chinese spread out all along the Yangtze until they reached the Pacific coast. Then they turned southward. From their neighbors in Indo-China they learned to build and to sail ships. So commerce (buying and selling) grew up very early. Chinese ships called junks sailed all up and down the coast.

The sailors on these vessels had to keep within sight of land or they might be lost at sea. But sailing so close to the shore was dangerous. There were many rocks. A ship might be wrecked on them.

Studying the stars was a help in sailing, for they told which way to go. But they could not be seen on a cloudy night. Could not a better plan be found for showing direction?

The Chinese had long known that certain pieces of iron were magnets. They knew that a little bit from such a magnet could be placed on a cork in a bowl of water. It would turn around a

The Face of a Compass

few times and then would come to rest. It always pointed north and south.

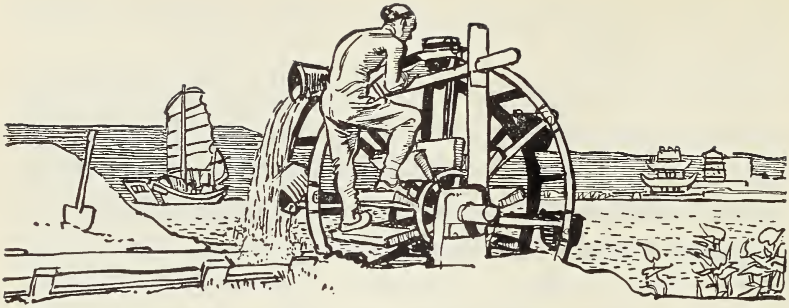
So they used such a "needle" to point out directions when they were sailing. In this way the *compass* came into use. Slowly its use spread to India and from there to the Arabs. Many centuries later the Arabs showed it to the people of Europe. That is how we came to use the compass.

In southern China, commerce made some people rich. This class wore garments of silk. The women wore trousers; and the men, a long, tight-fitting robe. The material was woven by hand in beautiful designs and was dyed in lovely colors. Chinese silk was liked all over the parts of the world that were then known. From hand to hand it was traded until it reached the faraway Mediterranean.

The rich Chinese loved to play games. The names of some of their games are well known to you: checkers, chess (possibly learned from India), and playing cards. They also had famous cooks; their food was delicious, and cooking became an art with them. Their gardens were among the most beautiful the world has ever seen. Many of our parks today are laid out according to the plans that they used.

The common people, of course, lived very simply. Their dress was of plain blue cotton. Because land was so scarce, many of them lived on houseboats along the rivers. They worked very long hours. Even today travelers often find their little workshops busy as late as ten or eleven o'clock at night.

The farmers dug many irrigation ditches to get water from the rivers. But they raised the water by a different plan from that of the Egyptians. (See page 106.) They built a large wheel, with buckets fastened around the rim. To turn the wheel a man pumped with his feet. (See the



A Water Wheel with Buckets on It. The Man Turns It Around by Pumping with His Feet

picture above.) As the buckets turned over, the water was first dipped up from the river and then was poured out into the ditch. This is called a *water wheel.*

You notice that there was very little use of animal power in southern China. Land was scarce; and it takes much land to raise feed for animals. So the people furnished their own power.

Much larger ditches, or *canals*, were also dug through all parts of the country. These canals were used to carry rice and other goods from one region to another. They were even better than roads for this purpose. A large load of rice could be carried in one canal boat. If those goods went by road, men would have to carry them by means of a yoke over the shoulders. It would be very hard work and would take many men. So few roads were made in China. Even to this day there are not as many as are needed.

In the south the growing of the tea plant was begun. This is still one of the most important businesses of the country. Centuries later Europeans learned the use of tea from the Chinese.

How did it come about that the two parts of the country were joined together? That was not done by the people themselves. People from the northwest conquered them both. And from that faraway time down to our own times, China has again and again been conquered—always by people from the barren north or northwest. The newcomers were called the Ch'in or Ts'in. From that name came our word China.

The two parts, north and south, then made up one empire. The ruler was called the *emperor.* But not even the emperor could make the two parts alike. Their geography was different; their goods were not the same; even the languages were different. Over and over in Chinese history the north and the south have broken apart.

The first emperor knew how easily his own tribe had come down upon China. He feared that the same thing might happen again. How could he prevent it?

He decided to build a great wall clear across the north. He began that task in about 250 B.C. He could have only the help of man power to do work that we today would not like to try. He decided to make his wall twenty-two feet high, twenty feet wide, and eighteen hundred miles long. A chariot could drive along the top of it. (Do you know of any place that is eighteen hundred miles from your home?)

Much of the wall was built of stone; the rest, of brick and earth. The stone had to be brought from far away and across many rivers. Building a pyramid seems an easy task compared to building the Great Wall of China.

But the deed was done—the wall was built. Some of it is still standing today. It is considered one of the great wonders of the world.

Building the Great Wall of China

Did the people of China have freedom? People of today know little about the China of long ago. They see pictures of the Chinese kneeling before the emperor. So they think that the Chinese had no freedom at all—that the emperor could do anything which came into his head. But there they are wrong.

The Chinese believed that the emperor was the Son of Heaven. Heaven gave him the right to rule. As long as he ruled fairly, everyone must obey him.

But if he did not rule fairly, Heaven required that he be removed. A better man should be put in his place. So we often find the people of China rising against their emperor and driving him from the throne. (Do we do somewhat the same thing with our officers today? How?)

In fact, the emperor was safe only as long as he followed the old customs of the country. If he tried to collect more taxes than was the custom, the people would not pay. You can see that they did not have as much freedom as we have; but they were far from being slaves.

There was one way in which the Chinese were "democratic." They believed that a bright boy should have his chance, no matter how poor his family might be. So the brightest boy in each village was sent to school. (The others were set to work.) Sometimes a rich man paid his way; sometimes the whole village helped.

When the boys from many villages finished that first school, they all had to take very hard examinations. Those who passed were made officers of a village. They were paid much respect.

The boy who had the highest marks of all was sent to a higher school. Other "brightest" boys from other districts went there, too. Again, at the end of many years of study, there were examinations. Again those who passed were made officers—of larger districts. And again the best students were sent on to a still higher school.

This plan was kept up until only four or five men were left; they usually came from different parts of the empire. These would be made the emperor's helpers. You can see that it was possible for a boy from the very poorest family in a far-away village to become one of the emperor's highest officers. You have not seen that plan used in any of the other countries about which we have been reading.

Today some of our own officers are chosen after they have taken examinations. We call our plan the "civil service." But we do not select the brightest boys from the lower schools and pay their way at higher schools. Perhaps we ought to do so.

The sad part of this story is about the Chinese girls. They were not sent to school at all. There was no chance for them outside their own homes.

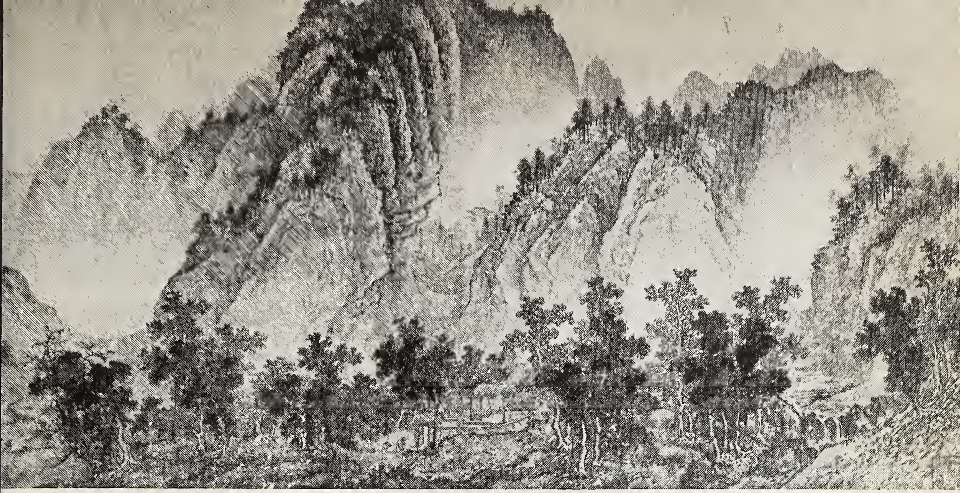
A Chinese Landscape Painting.

Some Chinese Arts Lead the World

The arts of China have given much to our own world. The Chinese believed that a building should fit into the landscape. So their buildings were wide and low, with the main lines kept horizontal. Wood was the chief material used, with stone for gateways, bridges, and railings. The roof was of tile in lovely colors. Yellow was the emperor's color.

The furnishings of the house were simple. The pieces of furniture were few, but each piece was beautifully carved. Many were inlaid with the shell called mother-of-pearl. Heavy rugs covered the floors. Today Americans are very proud if they have Chinese rugs. "Venetian blinds" are another idea we borrowed from these ancient people.

The Chinese learned much from Buddhism in sculpture; for Buddhism reached China about the time that Christ was born. Sculpture was both in relief and in the round. Temples and monasteries were built all over the country; they were filled with statues of the Buddha. The



Museum of Fine Arts, Boston

he Artist Was Tung Yüan of the Sung Period

carving was as rich as that in India. Today a great many Chinese are still Buddhists.

Their artists liked especially to carve in jade. Jade is a stone that has a soft color and a smooth, waxy surface. The sculptor had to use great skill or the stone would show tool marks. Jade was used for vases, bowls, small statues, and ornaments. Today the finest kind of jade is so expensive that a small piece set in a ring may cost a hundred dollars.

It was in painting, however, that the Chinese made the greatest progress. They became the greatest landscape painters that the world has ever known.

An artist did not try to draw a scene exactly as it looked in nature. He thought one might better go out and look at the landscape himself if that was what he wanted to see. He tried, instead, to give the *feeling* of a waterfall, a rocky mountain, the restless sea, a rainstorm, or a mist-filled valley.

The paintings were not made to be framed and hung on a wall. They were done on silk or paper, with a few sure, simple lines. Little color was used. Artists liked better to use Chinese ink—which was a solid cake rather than a liquid. The silk painting was rolled on a wooden roller.

Only one such painting was shown in a room at one time. It had the place of honor. After several months it was carefully rolled up and put away, and another was shown in its place.

You have already read of the fine bronzes, and of the silks woven by the weavers of those early days. Some of the old robes worn by the Buddhist priests and the high officers can be seen today. After centuries of wear they are fresh and firm.

The porcelains were equally beautiful. Some of the finest were a soft sea-green. Our habit of mixing colors, rather than using strong primary colors, has been greatly influenced by the Chinese. They also used decorations, both under and over the glaze.

The metal-workers learned to cast brass as well as bronze. Chinese brass pieces are well liked in many homes today.

Another art was the use of lacquer. This was a sort of varnish put on over light wood. One layer was put on and allowed to dry; then another was put on over it. Sometimes as many as forty layers were used, to give a very bright and very hard finish. Decorations might also be painted on some of the layers.

Many of these arts are shown in the colored picture at the beginning of this book. How many can you find there?

Chinese music, however, was so different from other people's that it has had little influence on our music. Their scale had only five notes, while ours has eight.

We cannot learn about all the things that the Chinese invented or discovered; it would take a whole book for that.

They were the first to use puppets. Acrobats traveled about the country, showing off their tricks. The officers took fingerprints of some of the people. You perhaps thought fingerprinting was a very new invention of our own police!

To help to move goods, the Chinese invented the wheelbarrow. They built the first windmills. They used coal as fuel when the people of Europe still believed it was only a black rock.

They were the first to invent gunpowder. These peaceful people, however, used it only for making firecrackers. Not until the Europeans learned its use from them did anyone ever try to fire guns with it. The Chinese cannot be blamed for that!

On looking back over the first four parts of this unit, you can see very clearly that our civilization today has not been built up by any one country or any one race. It has borrowed ideas from all places and all times. So we have no reason to feel that we are better than the rest of the world. We have given ideas—but we have also taken them.

To Talk About

Why are tribes not likely to unite if they do not understand one another's language?

Why does cutting too many trees cause floods and dust storms?

Why should children respect their parents?

What is your family name, or *surname*?

Which is harder—writing the Chinese picture writing or reading it?

Do you think it is true that good manners make life more pleasant? How?

Can you bring a small compass to school and show the class how it works? Be sure that you can explain its use.

How could the Great Wall keep out enemies?

Would an educated man be likely to make a better officer than a man who had no such training?

What are the "primary" colors?

Can you find out what is happening in China today? Is the land all under the same rule?

To Do

Can your class "unite" with another class to do some service for your school? For example, you might like to put fertilizer on the school lawn.

Can you make a list of ways in which you ought to show more respect for your parents?

If possible take a trip to see the Chinese rooms in a museum.

Carve a simple scene or a letter on a wood block.

Perhaps your class could collect some money to help keep a bright boy or girl in school.

You might like to make some puppets and give a show.

Other Early Peoples and States

One of Our Firm Beliefs

Suppose someone should ask you, "Are your everyday actions changed because a small group of people lived along the eastern Mediterranean thousands of years ago?" Before you had read any of the stories in this book, you might have said "No." Now you might answer, "I cannot be sure about that."

There was such a group. Their teachings touch every one of us every day of our lives. These were the Hebrews; today we usually call them the Jews.

The Hebrews were a nomadic desert people, with many flocks and herds. Their God was called Jehovah. Like other

Building King Solomon's Temple. The King Visits the Workmen

desert people, they wanted to live in the part of the world that we have called the Fertile Crescent. So they wandered into Palestine. That is a very small country, about the size of our state of Vermont.

In northern Palestine there were cities. The people there had long ago learned the ways of civilization from the Egyptians and the Babylonians. They taught the Hebrews. Southern Palestine was wilder and more hilly. The north was called Israel; the south, Judah.

As time went on, these two sections were united into one *kingdom*, with Jerusalem as the *capital city*. King David began this work; his son, King Solomon, completed it. Solomon built a great temple in honor of Jehovah. This period was the only period of real good fortune in all Hebrew history.

As the Hebrews grew rich they learned to take life easy. Again and again leaders called prophets tried to make them change their evil ways. The changes did not last. North and south fell apart once more.

Then Assyria set out to become a world state, as you have already read. Northern Palestine was in the way. So Assyria conquered the ten northern tribes of Israel. They disappeared; and no one to this day knows what became of them. You often hear mention of the "lost tribes of Israel."

The south went on a little longer. Then rose the second Babylonian empire; it was called Chaldea. One of its kings was Nebuchadnezzar. He, in his turn, wanted to make a world-state, too. So he conquered southern Palestine, or Judah, and destroyed the city of Jerusalem.

The southern tribes were carried away into Babylonia —the "Babylonian captivity" of your Bible stories. It lasted seventy years. The Hebrews learned from the Babylonians how to carry on business. They even gave up their old Hebrew language. Instead, they spoke the Aramaic language, like the other people of western Asia. So we no longer call them Hebrews, but Jews.

Their life in Babylonia could never be happy, however; for they were strangers in a strange land. They formed a habit of "sticking by" one another and helping one another. That habit has been kept up by the Jews ever since.

At last their hour of freedom came. Chaldea was conquered by Persia. The new king, Cyrus, was a kind man. You will read more about him on page 211. He allowed the Jews to return to their homeland and to build up their city of Jerusalem once more.

But the Fertile Crescent had a troubled history long after that. You know what happened to Egypt and to Babylonia. The same thing happened to Palestine. It was taken by the Greeks and later by the Romans.

One of the Roman emperors, Titus, grew tired of the repeated trouble. He decided to teach the Jews a terrible lesson. So he destroyed the city of Jerusalem and scattered its people over the face of the earth. Since then they have not all been in the same land but are citizens of any country in which they have settled down. Sometimes a state has not allowed them to become citizens; such Jews have been men without a country.

Palestine was later conquered by the Arabs. More Arabs live there today than any other people, though many Jews have returned, too. Quarrels between Arabs and Jews still keep the land from becoming peaceful.

After the Arabs came the Turks. Then an independent state was set up as a home for Jews. It was called Israel. Israel and the Arab states have not got along well.

As the Jewish people saw one world-state follow another, they set to thinking. At times one emperor ruled the whole world. In the same way, then, must there not be one God over all peoples? The Jews decided that there must be only one. No group had ever thought of that before; each tribe had had its own special god. And large states, like Egypt and Babylonia, had had many gods.

What was this one God like? He could not be an image. He could have no body at all, but must be a spirit. He must be everywhere.

It took the Jews a long time to learn so grand an idea. But they grew to understand it, and they spread their idea widely over the earth.

In time the teachings of the great Hebrew, or Jewish, leaders were all brought together. These teachings, their history, their poems, and their songs were all written down in a great book—the Old Testament of the Bible.

The Jews were very eager that their children should learn the teachings of the Bible. So they became the first people in history to teach all their children to read.

The ideas and teachings of the Bible have changed the world greatly. If you should take away all the Bible scenes from the world's painting and sculpture, what remained would be only a small part. There would not be much left of our music. Much of our great literature would never have been written. People would not try to do right, even as much as they do now. And we ourselves should lose the pattern that we live by.

Taking the Last Step in Writing

You have now seen the Egyptians, the Babylonians, and the Chinese all learning to write by pictures. Some of the signs stood for only a single sound. Most of the signs, however, stood for syllables.

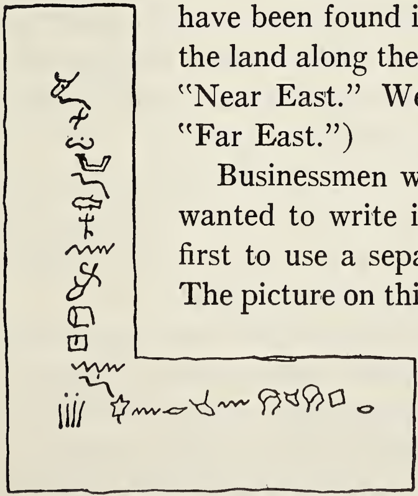
Perhaps you will ask: "Why wasn't the writing of syllables good enough? Why should there be any need for writing only single sounds?"

There are several answers. One is that the signs in use were too hard to make. Turn back to the pictures on pages 125, 149, and 189. Should you like to have to learn to write signs like those?

The chief fault was that there were too many syllable signs. Today you have to learn only twenty-six letters when you begin to read in the primary grades. You never have to learn any more in order to read English. But under those older plans you would have had to learn *several hundreds* before you could read or write even the simplest stories. To read more difficult stories you would have had to learn hundreds more. There is no doubt that a simpler plan would be better.

We are not sure who first started to write each single sound by means of a separate sign The oldest such writings have been found in the *Near East*. (We call the land along the eastern Mediterranean the "Near East." We call India and China the "Far East.")

Businessmen were probably the first who wanted to write in a hurry. They were the first to use a separate sign for every sound. The picture on this page shows you the oldest



The Oldest Record Written in the Alphabet. Do These Look Like Letters to You? You Probably Can at Least Find the Forefathers of M, B, Y, S

The Oriental Institute of The University of Chicago record that has been found in which each sign stands for one sound. It was written by a man who was keeping track of the amount of copper taken from a mine.

Those signs may not look to you much like letters; but that is what they are. The name of the first sign was "alph." The name of the second sign was "bet." So we call the whole list the *alphabet*. At first it contained no vowel sounds (*a*, *e*, *i*, *o*, *u*) but did have the other letters.

How glad the other businessmen were to learn this easy way to write records! Now their business could be carried on much more rapidly. It no longer took years of training to learn to read and write. So writing could be learned by many more people. It was no longer a "mystery," as it had been before.

Of course, not everyone learned all at once. You remember that nine persons out of every ten in the ancient world were slaves. No one taught the slaves. There were still a thousand persons who could not write for every one who could.

In time the better and easier alphabet took the place of hieroglyphics and cuneiform. Those forms disappeared. But not until our own times did any Chinese use the alphabet; and not many of them use it even today.

One of the peoples who were glad to take up the use of the alphabet was the Phoenicians. They lived north of Palestine, in Phoenicia. Their hilly country could not support a large number of people by agriculture.

But it had large forests of great cedar trees. Its waters sheltered a small shellfish from which could be made a beautiful dye. People in those days called it "Tyrian purple" (from the name of the city of Tyre). We call it crimson.

With such goods as these the Phoenicians became great traders. The Bible calls them the "men who went down to the sea in ships." They sailed all over the Mediterranean. They even dared to go out into the Atlantic. They reached the British Isles in their search for tin. They sailed far down the western coast of Africa.

And wherever they traded, they kept their records by means of the alphabet. Then other people too wanted to learn this easy way. And so the use of the alphabet spread.

When you yourself were in the first grade, learning to read and write, you had no idea that your work had been made easy by people who lived so many centuries ago.

The Best Way to Use Metal as Money

The metal bars of Babylonia traveled all over the Near East. As business grew, more and more merchants made their bars and marked them with their seals.

In time there were so many that a seller of goods could not know them all. He had to weigh every bar that he was offered. And the only way for him to tell whether a bar was really solid bronze or solid silver was to test it. He would have to chip a piece off and test it. That took a great deal of time. Imagine a storekeeper today having to do that for every piece of money he took from every customer! And imagine all the other customers having to wait while he did it!

Clearly, somebody ought to take charge of making all the money bars. Who should it be? The king decided to do it himself. The first king to take such action was the ruler of a Mediterranean trading country called Lydia.

The first thing that the Lydian king did was to send out an order: No common person was to make money bars. Always before, merchants had made their own; they could do so no longer. Death was to be the punishment of any who tried to keep on. The king himself would take charge of all the making of money bars.

So the king's officers weighed the copper and tin and silver. They smelted the metals and cast them into bars or smaller pieces. For marking the bars they used the king's own seal.

Then everyone in the country could feel safe when he was offered a bar of metal in exchange for his cloth or grain or cattle. He need only look at the king's mark on the bar. It was the same as a promise that the value of the metal was what the king said it was.

That is what a *coin* is. It is a piece of money whose value is made sure by the State. Look at a piece of our own money today. You notice that it is marked with the name of our government, the United States of America. That means that our government promises that the money is good.

No private person today can manufacture money. It is done by the government.

The first coins made in Lydia were in the shape of a bean. Some had a seal only on one side; some had two of the king's seals—one on one side, and one on the other. The king's head was often used as one of the designs, or a sign from religion might be used.

In time, round coins were found to be easier to handle than square or any other shape. They have been used ever since.

One of the World's Earliest Coins. Figures Are Stamped on Both Sides

The American Numismatic Society

The best thing about using coins is that they need not be weighed or tested every time they are used. They need only be counted. So business dealings can go on much faster.

A World-State Tries to Keep People Satisfied

So far you have read of only one world-state—Assyria. You have read of others, such as Egypt and Babylonia, that would have liked to be world-states. None of them had covered the world as we know it today. None had even taken in India or China. The ruler might call himself the Great King of Kings or the Ruler of the Earth. Today we only smile at such names.

In the days of the later Babylonian, or Chaldean, empire, people often heard about strong fighters in the eastern hill country. These were the Persians. They watched the ways in which the "civilized" people of the plains made war. Then they used those ways themselves—and used them even better. They were the best shots with the bow and arrow of all the peoples of long ago.

Year after year they came nearer to Chaldea. Then their chance came. They had a strong young leader, King Cyrus.[1] With him to plan for them, they took all the land as far as the Mediterranean Sea. They took Nebuchadnezzar's great city of Babylon.

With such a good start as that, the Persians kept on, even after Cyrus's death. They took all of Egypt and cleared out the old canal between the Nile and the Red Sea. They reached out on the east to India. They had better reason than most to call their empire a world-state.

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[1] You have already been told that King Cyrus let the Jews go back to their homes. (See page 205.)

The Persians had not found it hard to conquer other states. But what could you do with a country after you had conquered it? The old answer had been to keep an army there to rule it. But an army needs food, clothing, and weapons. It needs horses and chariots, bows and arrows. To support such an army took all the profit out of conquering a country.

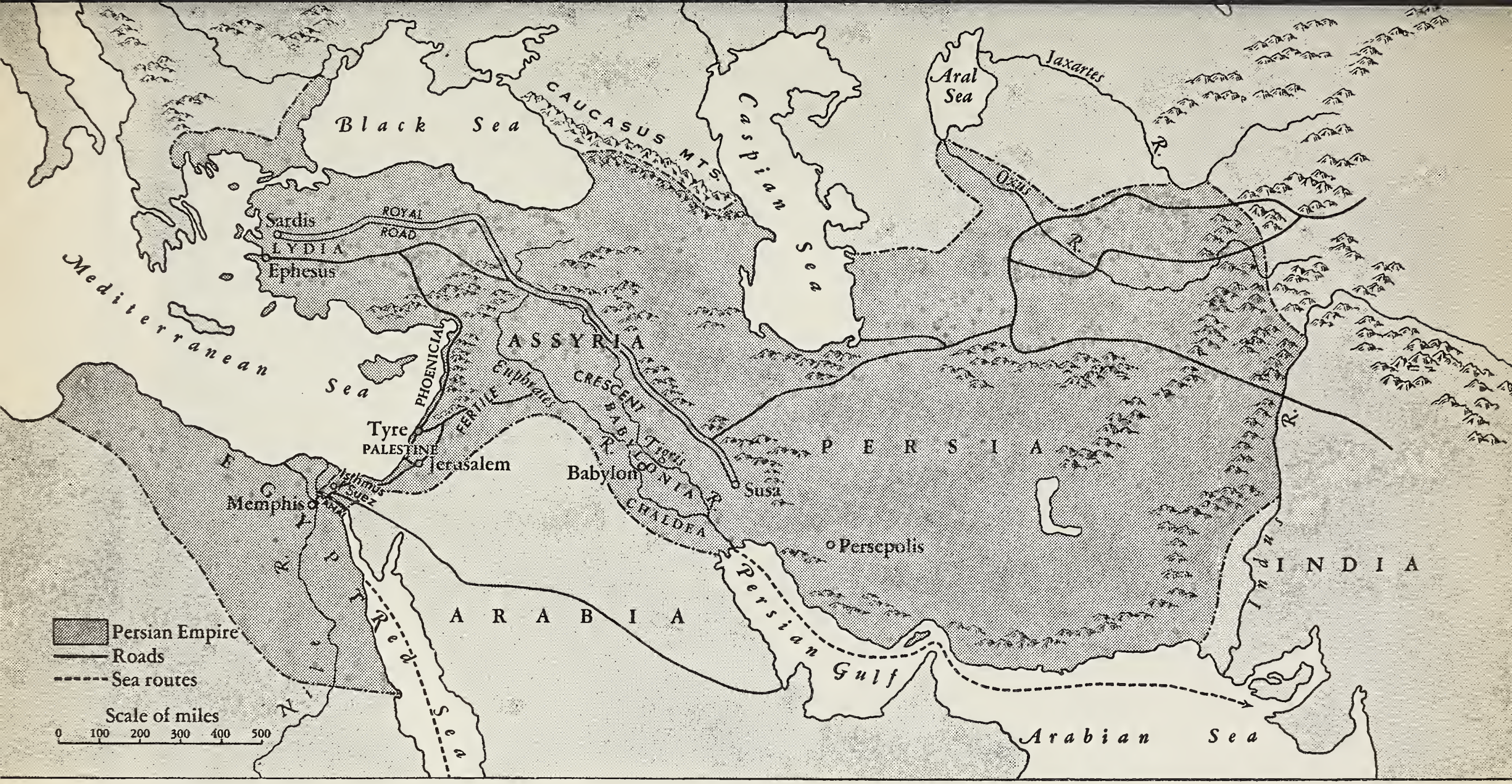
So the Persians tried a different plan. The king sent out his officers to rule every district that he conquered. But he did not keep an army there. Instead, he made roads and dug canals. He built up trade. His officers kept good order. The country had become a *province* of Persia.

To be sure, the king taxed the conquered people, but not as heavily as their own kings had taxed them before. He let them keep their own old ways and their own religion. Since they were better off than they had been before, they did not try to break away from Persia. This was a new way of ruling an empire.

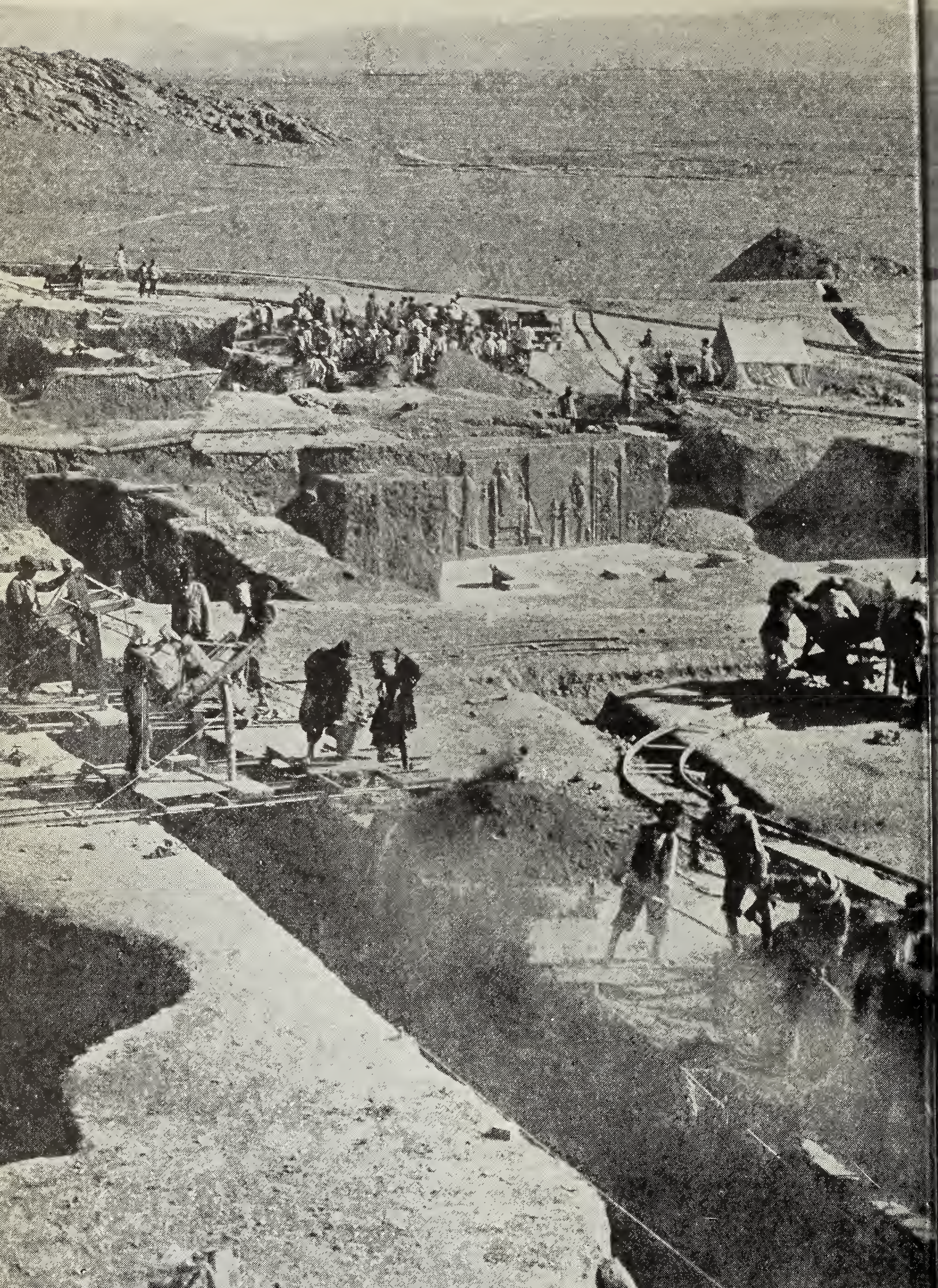
Many countries since that time have followed Persia's example. They have tried to rule their conquered countries in the same way. The plan has usually worked well enough.

There was good order, but there was little freedom in the Persian empire. None of the common people, however, had ever had freedom; so they did not miss it. And no one had as yet even dreamed that the common people could take any part in making their own rules.

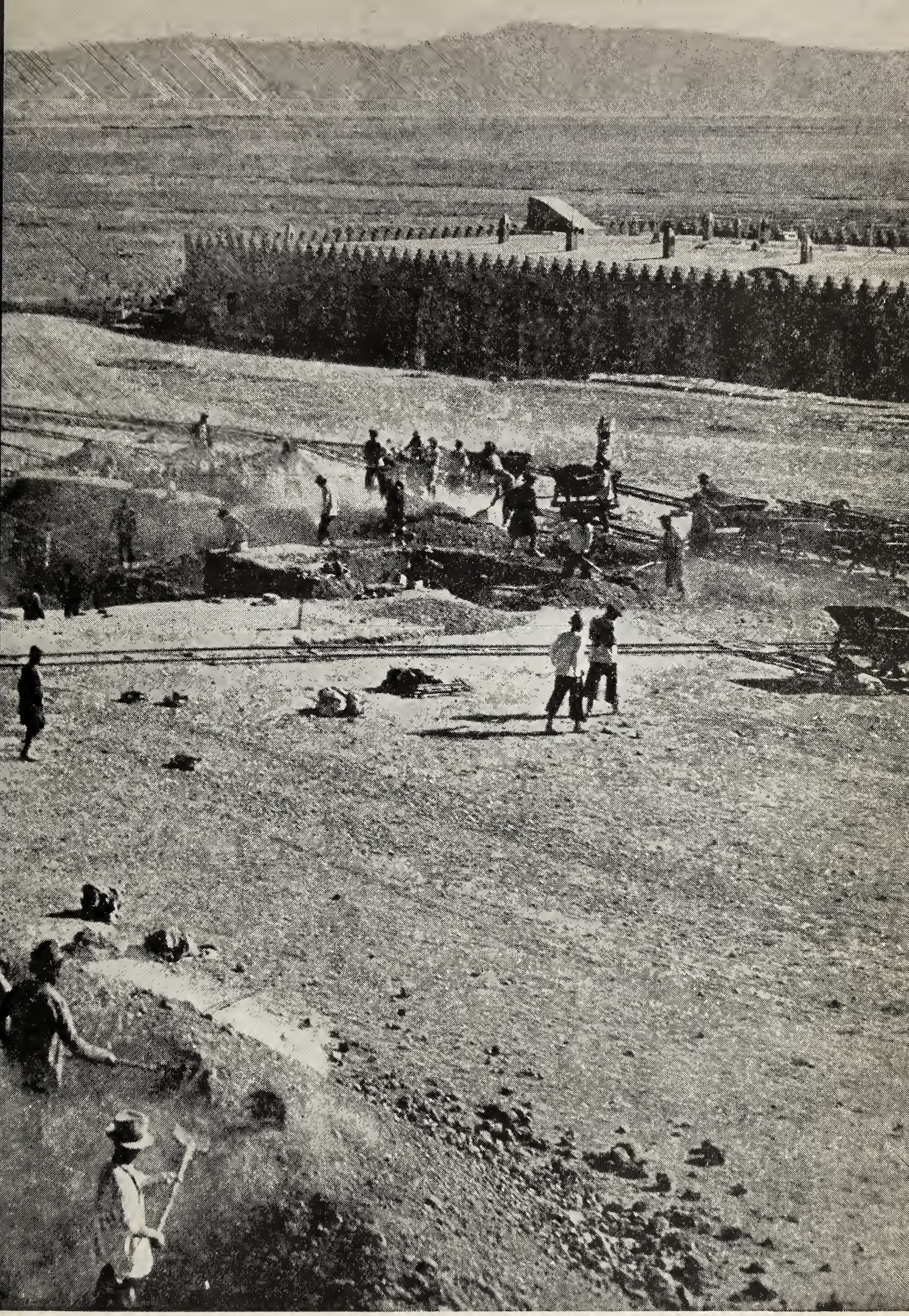
To help in trade and in ruling the conquered provinces, roads were built all over the empire. Of course they were not paved, but they were level. Bridges were built where needed. There were inns (hotels), where travelers could rest at night and where they could get fresh horses. That part of the world has never had so good a plan for travel and transportation since, until our own day.



The Great Persian Empire



Digging Out the Ancient City of Persepolis in Iran (Persia) Today. These Men



The Oriental Institute of The University of Chicago

re Digging Out Another Wall Just Like the Sculptured One in the Left Center

Trade was also carried on by sea. The king sent out a famous sailor to explore the coast of the Arabian Sea and the Red Sea from the river Indus to the Isthmus of Suez. That had never been done before.

The buildings of the Persians were planned after those of Babylonia and Egypt. The chief material was sun-dried brick. But for finer buildings stone columns, stone stairways, and huge carved pieces of stone were used. Decorations of colored tiles could be seen everywhere. The capital city, Persepolis, was one of the finest in the world. Today American scientists are digging out this old city.

The Persian religion taught that the whole world is divided between the spirits of good and evil. These two spirits are continually at war to see which shall win the world. They are also at war all the time within each person's soul. Each one of us decides for himself which is to conquer. The name the Persians gave to the spirit of good was Mazda.

As long as the Persian kings followed the good example of King Cyrus, their empire got along well. Later kings, however, grew lazy. They no longer ruled fairly. Then the provinces rose against them. The empire fell—and another world-state came to an end.

Afterward, in turn, the Greeks, the Romans, the Arabs, and the Turks ruled the country. The land had a very troubled history.

Today the state of the Persians is once more independent. It is called *Iran*. It may still be in danger, however, for it contains great supplies of oil. In the story of Iraq (p. 167) you learned that every country in the world today wants oil.

To Talk About

Why do you suppose the Hebrews were able to conquer the more civilized people who lived in Palestine?

Do any leaders today try to change our people's ways of doing things? Do we call them prophets? What bad conditions do they try to change?

Do you know of any small states in late years that have been in the way of larger states that wanted to become world powers?

In what ways can members of a group "stick by" one another? Should they "stick by" one who has done wrong?

Why are there Jews in almost every country today?

What kind of school would yours be if the pupils had to spend four or five years studying sign writing before they could read even the simplest book?

Should people be given any honor for spreading ideas if those ideas are not their own?

Have you ever heard people talk about counterfeit money? What does that mean?

What is the difference between a medal and a coin?

Are there any world-states today?

Was the Persian plan for the provinces a good one?

Do you think that the spirits of good and evil are ever at war in your own soul?

Why are some of our electric lights today named Mazda?

To Do

You might like to bring from home your books of Bible stories. Find there the same stories that are given here.

Do the Jews and the children of other religions in your class get along well? What can you do to respect one another's religion?

Make a list of paintings, sculpture, music, and poems or stories that have Bible subjects.

Send some children to the board to write down lists of syllables as the class gives them. The other pupils name every syllable that they can think of. The whole board will soon be covered. You would have to learn a separate sign for every one of those syllables if the alphabet had not been invented.

Examine different kinds of coins today to see what kinds of marking they have.

Would you like to keep track for one day of whether you let the spirit of good or the spirit of evil win?

UNIT THREE

CAN A STATE HAVE BOTH FREEDOM AND ORDER?

★

A New Idea of Freedom

Order under the Law

The Ceremony at Home When a Boy Became a Citizen of Rome.
(See Page 269)

A New Idea of Freedom

Can Freedom and Order Go Together in Your Own Classroom?

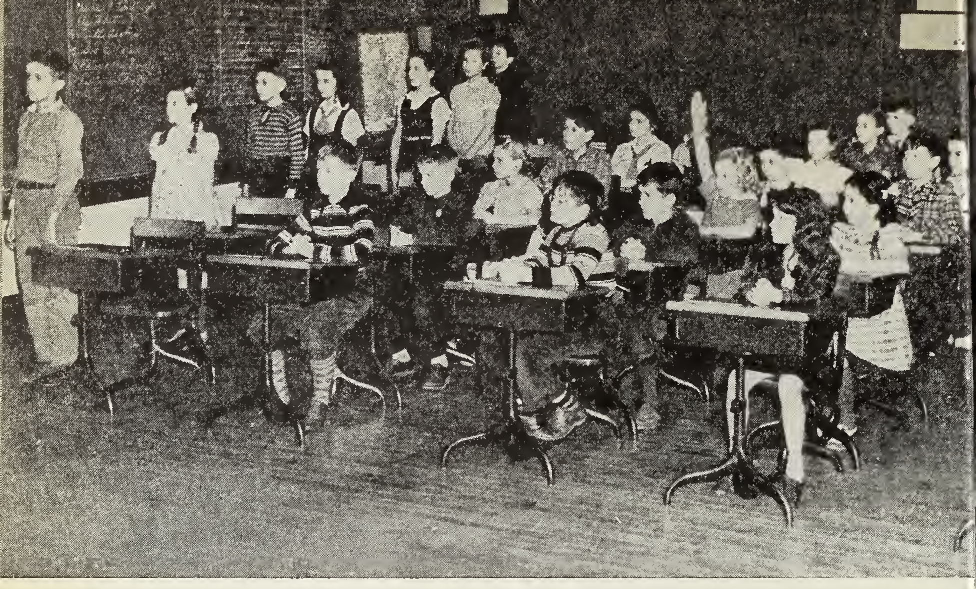
What do you think about that question? First, do you have order in your classroom? You might like to try living for a few days without order. The teacher would let the children do as they pleased. After a short time you would grow tired of it. The children would bother you. Someone might take away your property. Someone might play with your books or your games and lose or break them. Little work could be done. Soon you would be glad to live again under rules that would keep order.

Now let us turn to the other side of the question. Do you have freedom in your classroom? You might like to try living for a few days with no freedom at all. The teacher would make all the rules. You could not speak or leave your seat without asking her. You could not decide any question for yourself. You would be very glad when that kind of living came to an end.

Then you might try to work out a plan to have both freedom and order. Your teacher and the pupils together would make the rules. First you would have to decide what freedom means. Does it mean that any child may do anything that he pleases at any time? Or does it mean that he may have a share in making the rules for the group?

You will find that it is hard for the group to keep order when each member is given some freedom. Always there is some boy or girl who will not do the right thing. The rest have to control him. It takes a long time for any group to learn how to control its members. Such work is not easy.

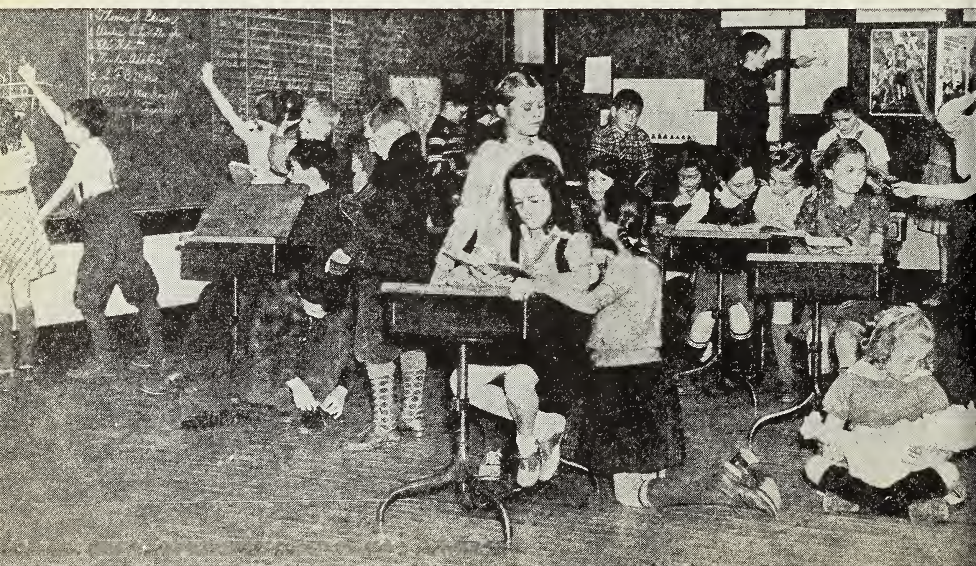
But that is the way Americans choose to live. We call that plan the *democratic* way of life. You are now ready



Order without Freedom

The Children of the Fourth Grade of the Training School of the State Teachers' College, Oshkosh, Wisconsin, Shown in the Pictures on These Pages, Decided to Find Out for Themselves Whether They Liked Order without Freedom, Freedom without Order, or Freedom and Order Both. They Lived a Week under Each Plan. Then They Voted to Choose Freedom and Order. The Pictures Were Taken during the Time They Were Living under the Different Plans

Freedom without Order



Order and Freedom

to find out what people first gave the world the idea of *democracy.*

You have read about many states that learned to keep order: Egypt, Babylonia, Assyria, China, Persia, and others. But not one of them had believed it was possible to give their people freedom. Freedom and order, they thought, could not go together. The king or emperor made the rules; the common people had only to obey.

The Greeks in Their Homeland

In order to find the home of the people who first had a different idea, turn to the map on page 225. Find the *peninsula* of Greece. You notice that this is a country of hills and mountains. The little valleys are separated from one another. But all of them are near the sea. No spot in the country is more than fifty miles from some part of the sea.

Into this land had wandered some tribes that we now call the Greeks. They had settled in these little valleys. They had learned to build ships, and then had gone on to the hundreds of little islands in the Aegean Sea. They had even reached the eastern coast of the Mediterranean.

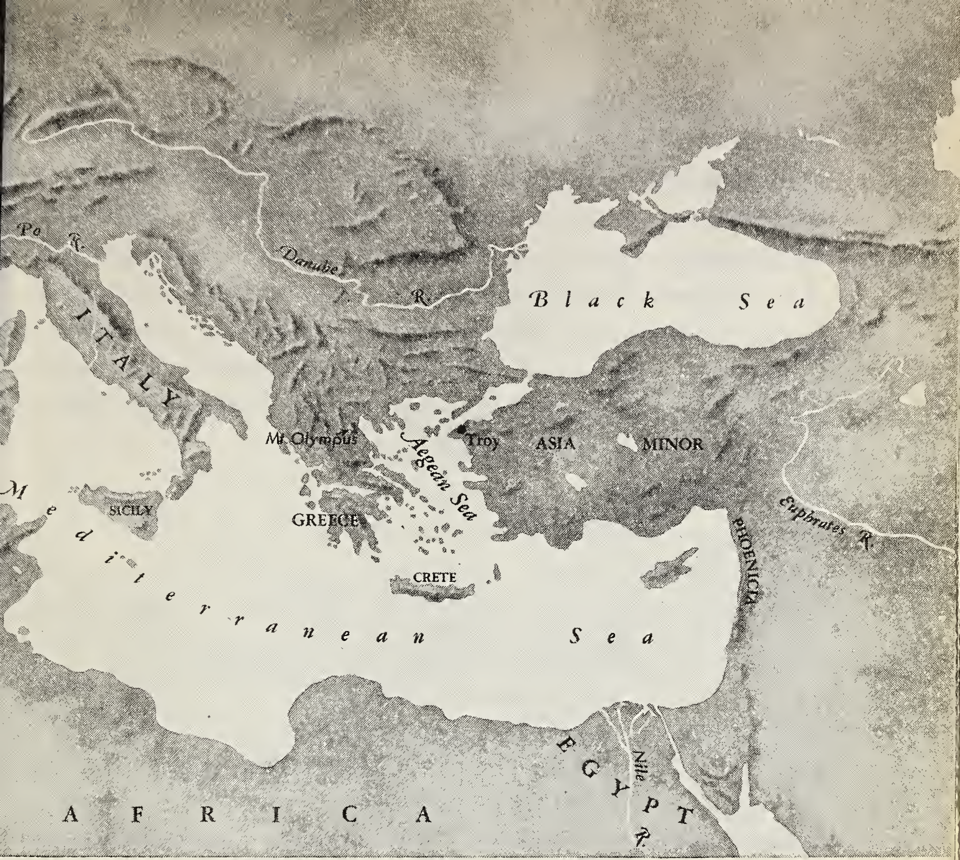
Each of these groups lived for many years in its own little valley or on its own little island. They carried on agriculture, growing wheat, grapes, and olives. They raised sheep and cattle. They also turned to the sea for fishing, and they often traveled about in their little sailboats.

Life was simple and the groups were small. So it was easy for the tribes to keep the freedom that they had had in primitive times. They called their leaders "kings," but these kings were really nothing more than chiefs. Their council of old men met to decide most questions. But if it was an important question, like going to war, every man who was able to carry weapons helped to decide the matter.

Each family lived simply in its farmhouse of sun-dried brick. The pigs wandered about the courtyard, while the cattle and sheep grazed on the hillside. The men of the family cared for the olive trees and plowed the wheat fields. The women knew how to spin and weave woolen clothing and to make pottery.

Their gods and heroes. These simple people knew no writing. But they had long poems and stories telling about their past; these were learned "by heart." The stories they liked best told about a long war which the Greeks had carried on against the city of Troy, in Asia Minor. (Find Troy on the map on page 225. Which part of Asia is called Asia Minor?)

A poet named Homer gathered all these stories together. Those which told about the Trojan War he made into a



The Region of the Eastern Mediterranean

great poem called *The Iliad.* Those which told about the wanderings of a Greek hero in his attempts to reach home again, Homer made into a second great poem. The hero's name was Odysseus; so the poem was called *The Odyssey.*

The Greeks loved these poems, as we love the Bible stories. They told them year after year and century after century. When the people learned how to write, the stories were written down. They are still counted among the world's greatest writings. You will perhaps read parts of them when you are older. Any such long poem which tells the history of a people we call an *epic poem.*

By reading these epic poems we of today can get a very clear idea of how the Greeks of long ago lived. We can also learn a great deal about their gods. For the Greeks had many gods, whose home was on Mt. Olympus. From this home they looked down to watch the life of the people. Any person who became too proud or boastful the gods would strike down. To the Greeks, pride was a great sin.

Perhaps you would like to give an assembly program about the Greek gods. You might read and tell stories about the following gods and goddesses:

Zeus: god of the sky
Apollo: the sun-god
Athena: goddess of wisdom
Poseidon: god of the sea
Hermes: messenger of the gods
Hera: wife of Zeus
Aphrodite: goddess of love
Pluto: god of the underworld
Persephone: his wife
Ares: god of war
Demeter: goddess of harvests

You might also like to hear stories about Hercules, the strong man. Or about beautiful Helen, who was carried away to Troy and who caused the Trojan War.

The gods were much like people, only larger and more powerful. So the Greeks made bargains with them. The people would give the gods offerings. And the gods were expected in return to give the people health, or a good harvest, or success in war. Do you think this kind of worship would make the people live better lives? Ought gods to be better than men?

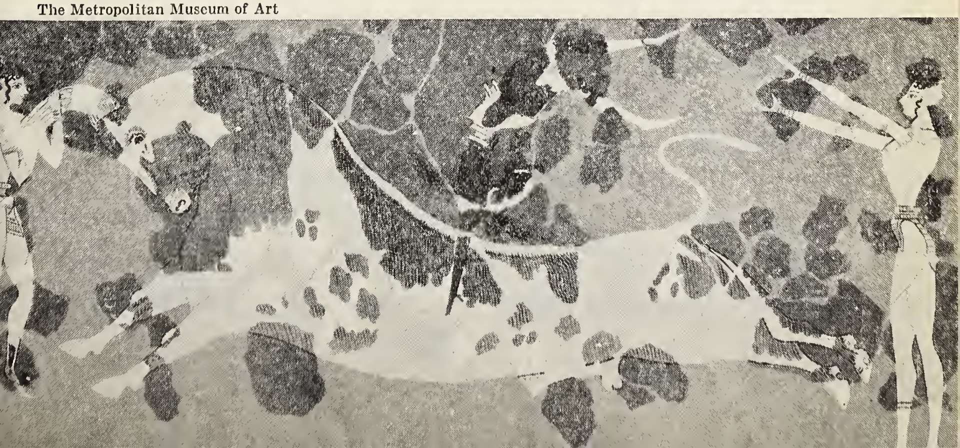
These early Greeks were very fortunate in their choice of a home. The map shows you how close they were to both Egypt and the Land of the Two Rivers. They could easily learn from both these older civilizations. In a few centuries they could learn what these earlier peoples had taken thousands of years to find out.

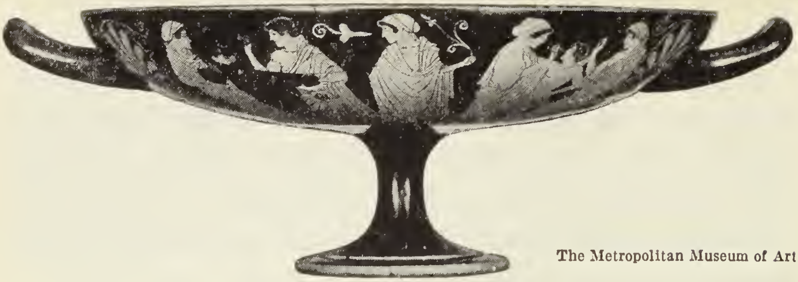
To find teachers the Greeks did not even need to travel as far as Egypt and the eastern shore of the Mediterranean. The map shows you that there was a large island lying nearer to them. This was the island of Crete. It was so close to Egypt that Egyptian sailing ships had been stopping there since the very earliest times. It also was the first part of Europe to learn the civilized ways of the Near East (Babylonia, Phoenicia, Persia).

These civilized ways the people of Crete, in turn, taught to the Greeks—especially to those along the shore of Asia Minor. But those on the Aegean islands and those in the Greek peninsula learned also, although a little later. The people of Crete had ideas of their own, too. Their king even had a bathroom in his palace. Of course, the common people had no such things. Neither did the Greeks bother

Athletes of Crete Liked to Be Tossed on the Horns of a Bull

The Metropolitan Museum of Art





The Metropolitan Museum of Art

A Greek Wine Cup. The Figures Are in Red on a Black Background

with such new notions! Bathrooms were never again used until late in Hellenistic and Roman times. (See pages 259 and 284.)

Cretan pottery and metal pieces were very fine. In the making of this pottery two ideas were borrowed from Egypt: the use of glaze and the potter's wheel. The Greeks took over both. The chief gift of the Cretan people themselves to the world was their art of decoration. This art was not stiff and hard like that of Egypt and Babylonia. It was gay and natural. Their artists knew how to show *movement* in a picture. The gay little fishes that you often find today painted on bathroom walls are copied from Cretan models.

You can see how fortunate the Greeks were in their location. They could learn Egyptian and Babylonian ways from Crete. And soon the Phoenicians spread the use of the alphabet among them. In the Greek language, however, the *vowel* sounds (a, e, i, o, u) were very important. So the Greeks added the vowels to the alphabet. You remember that only the other sounds had been written before that.

The picture on this page shows early Greek art. It took many of its ideas from Crete. The colors were usually dark red painted on black. Museums all over the world are proud to have pieces of this ancient Greek pottery.

How Groups Lived Together in Ancient Greece

When a Greek talked about his "country," he did not mean the whole peninsula. For you know that the land was all divided up. Each little district had a village built on some high place that had a water supply. This could be easily protected against attack by enemies. The fields around the high place were planted in wheat. On the lower slopes of the hills were the olive trees. Higher up were the pastures.

All together, this made up a *city-state*. It covered only a few square miles. Of course, the number of people who could live in such a city-state must be small. So it would be possible for each landowner to be independent and to have freedom. You can see how different these hundreds of small city-states were from the huge empires of Egypt, Babylonia, Assyria, and Persia. It was much easier for their people to keep the freedom they had had in primitive times.

Such a city-state was the only "country" the Greeks knew. There was no such thing as a Greek "nation."

The great gift which these small states made to the world was not in showing people how to rule or to keep order. Egypt had done that. So had Babylonia and Persia and China. The gift was showing *how to be ruled*: how people could choose their own leaders, make their own laws, and obey the laws after these had been made. For learning to obey because you think citizens *ought* to obey is very different from obeying because the king's soldiers *force* you to obey. Even today some of our own people have never learned the lesson of living well under the laws that they themselves have helped to make.

Do you and your classmates live up to the rules that your group has made?

At the Olympic Games. Runners Sometimes Had to Carry Shields and Wear Helmets

What made the city-states feel that they were related? Yet the many Greek city-states felt that they were related to one another, even though each was independent. They all spoke the Greek language; therefore citizens of one state could talk to citizens of the others. You always feel less strange with a person to whom you can talk; one who does not understand your language seems like an "outsider."

The Greeks all believed in the same gods. They made journeys to the same temples—no matter in what city-state a certain temple might be located. They visited the same holy places.

Some of the greatest of their religious meetings would not seem to us to be religious at all. These were the "games" held every four years in the city-state of Olympia. At that time there were contests in art, in writing, in giving plays, and in such things as running and jumping.

The people who entered the contests came from all over the Greek world. Sculptors brought the statues they had carved. Poets brought the best poems they had written during the last four years. The best runners and jumpers came from every village.

The games lasted a week. On one day would be the contest in poetry. On another day several plays would be given. On other days there would be running, jumping, wrestling, throwing the spear, throwing the discus (see the picture on page 246), and boxing.

The prize was not money—it was honor. The winners received a wreath of laurel leaves to be worn on the head. Their names were known in every village. Poems were written about them. Statues of them were carved; these were set up in the market place of their home states. Do you suppose our athletes today would be satisfied with such honors as these? Or would they want money instead?

To the Greeks such honors meant more than large sums of money. No single person in Egypt or Babylonia, in India or China, had ever been so well known as were the winners of the contests in Greece. But the Greeks loved to feel important; they liked to feel that each person was respected. The winners of the contests were the most respected of all.

The Olympic games were kept up for hundreds of years. Then they were stopped for more than fifteen hundred years. During that time most people forgot there ever had been such things. But lately the plan of holding contests among citizens from many states has been begun again. Nowadays Olympic games are held every four years except when the world is at war.

Sparta: city-state of warriors. Two of the city-states were more famous than all the others. One of them was Sparta, a village group of warriors. (Find Sparta on the map on page 239.)

All the land in Sparta belonged to a few thousand families. These were the only persons who could be called Spartans. All the rest were their servants or slaves. Nineteen persons out of every twenty had no share in the State. They were used only for the benefit of the landowners.

The Spartans did none of the farm work themselves, and they looked down upon commerce and trade. The only business that they thought worthy of a man was making war. All the men, therefore, were soldiers. Sparta was a *military* state. It was slow to change its ways. And, as you have seen, it was kept up for the benefit of only a few.

At the Modern Olympic Games. The American Teams Are Marching In. Ten Other Nations Sent Teams, Too

Black Star

From childhood every boy was trained for war. Any who were sickly were left on a hillside to die. The rest were allowed to live at home only until they were seven years old. At that age every boy had to go to a military camp, and there he had to stay until he was sixty. Under such a plan there could be little home life.

In camp the boys were drilled for long hours. They were beaten and were made to stand hunger and cold. That was supposed to make them strong.

The girls had training at home that was somewhat the same. Their training too was important, because someday they would be the mothers of warriors.

Because of this military training Sparta had a wonderful army. Her soldiers were brave and strong and loved honor. But she had no art and no great writings. She made no discoveries in science. She gave little for the world to enjoy.

Many states since have followed the Spartan way of life. Americans have never admired it.

Athens: home of free citizens. The other of the two greatest city-states was Athens. (Find Athens on the map on page 239.) This state was very different from Sparta.

In Athens change was easy. When one thing proved not to work well, it was thrown aside; something else was tried in its place.

Very early, Athens grew tired of a king. The nobles ruled instead. These nobles soon lost interest in agriculture; it was too slow for them. They turned to trade and commerce. So Athens became a businessmen's state, like Babylonia.

The Athenian nobles had workmen who made pottery, leather, and jewelry—all by hand, of course. They wove fine textiles. So many of the goods could be sold that the workshops grew larger and larger. The owners then bought great numbers of slaves, and the workmen taught them to carry on much of the handwork.

Goods were no longer made only to order. Regular stores were set up, and buyers came to select what they wanted. Does this not sound much like our own times? Each trade had its own street in the city, such as the "potters' quarter" or the "silversmiths' street."

The profit, however, all went to the owners of these large businesses. The real workers and the slaves were not as well off as in the days when they had lived simply in the country.

In time the Athenians grew tired of rule by the nobles. In some states one strong man would see his chance to get power. He would rule by himself as *dictator*. Before long, however, the people would grow tired of that kind of government too. Most of the dictators were murdered.

How could a better plan of government be worked out? Plan after plan was tried. At last the people decided on some better ways. (1) One was to write the laws down. Then everyone would know just what he was expected to do and just what he could not do. (2) Every free man was given the right to vote, and all had equal rights in the law courts. That was indeed something new. *Equality* was something that the earlier states had never dreamed of.

And so Athens won both freedom and equality for its citizens. Any country that has both of these is called a *democracy*.

Athens was eager to have all its citizens vote. So it paid the poorer members for their time when they left their work on voting days. As a result of all these things, the citizens of Athens were very much interested in their government.

They watched closely both the courts and the voting. They felt that the government in the city-state was *theirs*.

As soon as boys began to grow up, they attended the meetings of the citizens. They listened to everything that went on. Women and girls, however, had no share in the government.

You can see that Athens was not a perfect democracy, for it gave freedom and equality only to its own citizens and only to men. The slaves were not free. And foreign people could not vote or own land in Athens—not even if their fathers had lived in the state for many years.

Yet there was more democracy in the city-state of Athens than in any other state of the old world. Not until later times did any state come anywhere near giving freedom and equality to so many of the people.

Daily life in Athens. Most Greek cities were small. The streets were narrow; they had no sidewalks nor paving. In the summer they were deep in dust; in the winter, deep in mud. There were no street-cleaners except the pigs that wandered about.

Greek houses were not very pleasant places to live in. They were built of sun-dried brick, and were set directly on the street, with no lawn. The larger ones might have paved floors and a few small windows, but without glass.

The rooms were arranged around an open courtyard. In the center was a high place, or altar; the father of the family made offerings to the gods there. The only heat in the rooms was from a pan of burning charcoal. The chief light was an oil lamp.

The furniture was very plain and simple: a few stools for chairs, some small tables, chests for the clothing, and beds like couches. But the pieces were beautifully shaped and were decorated in good taste. Homes of the rich had pottery vases, jars, and pots, all painted with scenes from daily life. The women in such families had bronze mirrors cast in beautiful designs.

Clothing too was simple. Both men and women wore a long woolen garment which hung in graceful folds. The food was bread, wine, honey, and cheese, with vegetables added at the main meal. At feasts, however, a whole ox or sheep would be roasted.

The women had a dull life—spinning, weaving, cooking, and caring for the children. If the family owned many slaves, the women had the duty of managing their work. But they were not supposed to go out of the house, except to buy supplies, to attend religious meetings, or to visit their friends. When the men of the family had company, the women were not to be seen. You can see that the Greek city-state was not kind to its women members.

The men, however, led an interesting life. They spent little time in the dull, dark houses. Even as boys they were sent out to school, with a slave to carry their basket of rolls. For their writing, like that of the Egyptians, was done on rolls. They wrote also on wax tablets with a sharp, pointed stick called a *stylus*. The wax could be smoothed over and used many times. The boys studied reading, writing, music, and poetry. Their way of studying poetry was to learn it by heart.

As the boys grew older they were often allowed to go about with their father and listen while he talked with his friends. At eighteen they left school; they were ready to become active citizens. Each one made a promise to care for his city and to leave it better than he had found it. This promise they tried hard to keep.

The grown men did little work for themselves—that was

A Meeting of the Athenian Citizens in the Assembly. One Citizen Is Making a Speech

for slaves to do! They spent most of their time in athletics and in caring for the public business. The place where they practiced running and jumping was the *gymnasium*; it was in the open air. Most of the morning was spent there. Then the men went to the public baths, where they bathed and oiled their bodies.

In the afternoon they walked about in the market place, talking to their friends and learning the news.

On certain days of the month they went to the *assembly* place. That was where they helped to make the laws for the city-state. They also helped to settle quarrels among the citizens, for they themselves made up the law court.

You can see that each man felt great interest in the public business. It was as important to him as his own business. And all of them loved their city-state with a great love. It did not belong to the king nor to the army; it was *theirs*, and they meant to care for it. They would die to keep it free. They and the State were one and the same.

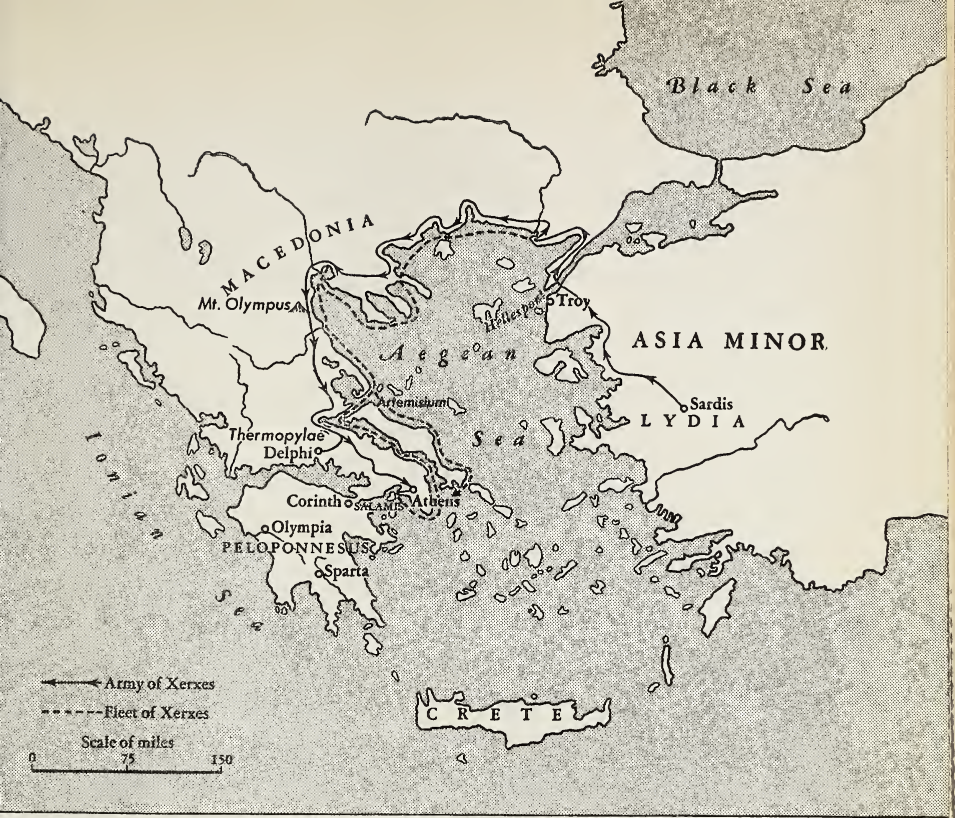
In the evening the men would often attend a dinner at the home of a friend. There they would sit for hours, talking about poetry or government or life in general. The guests often took turns singing or playing on musical instruments. Very late they would go home, each one followed by a faithful slave.

Such a pleasant life as this could not have been carried on at all if it had not been for the slaves. While the few men who were full citizens were having a good time, the slaves worked without end. They plowed the fields, took care of the olive trees, made the wine, and cared for the sheep. They did the weaving and the making of shoes (sandals). They carried on the hard and dangerous work of mining. In fact, they supported that Greek life which was easy, happy, and gay. We must not forget them when we are trying to decide whether life in the Greek world was a good life.

Which Ideas Will Win—Those of the East or Those of the West?

You already know what kind of ideas the Persian kings had. And you know that the Persian empire had spread as far westward as the Mediterranean Sea. Some of the Greeks had been living along the eastern coast of this sea and along the eastern Aegean. They were easily conquered. Athens had tried to help them, but had failed.

Then the Persian king Darius decided that he would add Greece to his world-state. To carry out his plan he had, for the first time, to carry his army across a body of water (the



Wars between the Greeks and the Persians. Can You Follow the Route That Xerxes Took?

Aegean Sea). That is a hard thing to do, even today. In the first place, hundreds of boats are needed to transport the soldiers. Then hundreds more have to keep traveling back to the homeland all the time in order to get supplies for the soldiers. If the people whose country is attacked in this way put up a stiff fight, they stand a good chance of winning. They may be able to keep the food and other supplies from reaching the enemy's army.

Athens put up a stiff fight against the Persians. Her citizens had no wish to lose their free way of life, even though the Persian king might rule them well. The other

Greek cities would give Athens no help. They did not feel that they were in any danger, and they would not mind seeing their proud neighbor punished.

But Athens won, although few people expected her to do so. The first Persian war ended in her favor. Because of this war, the free West was saved from rule by the East. Democracy still had a chance to grow.

Persia, however, had no idea of giving up. Her king knew that he was much stronger than a small city-state. Both sides began to get ready for the next war. The Athenian leaders built a large fleet of ships. With these they hoped to stop the supply-ships that were coming from the Persian empire. Then the Eastern army would starve.

The new Persian king, Xerxes, decided not to try to cross the Aegean Sea. He would march overland and would have to cross only the narrow waters called the Hellespont. The map on page 239 shows you how he went. His ships followed along the shore, carrying supplies for the men.

This time it was clear to all the city-states that the Persians would not stop at Athens—that they intended to conquer all Greece. Their army was the largest that the world of that time had ever seen. Could it be stopped? Only if every one of the states did its full share.

A band of three hundred Spartans under their king Leonidas met the huge Persian army. It was advancing through a narrow mountain pass called Thermopylae. The Spartans knew that they were facing certain death. But perhaps they would be able to hold the Persians back long enough for the Greek cities to get ready. So they stood their ground. The three hundred were killed to a man. The year was 480 B.C. Even today, more than two thousand years later, the world still remembers that day; it calls any brave but hopeless fight a *Thermopylae.*

A Procession Marching to the Acropolis. The Statue Is Athena, Goddess of Wisdom. (See Page 243)

The rest of the story is soon told. The Persian army marched on southward, conquering city after city. Athens fell before it and was burned.

But then the Greek fleet destroyed the Persian fleet in a great sea battle, the battle of Salamis. After that the Persian army was without supplies. Their men could get none in Greece, for they had burned the crops as they advanced.

There was nothing for them to do but to turn back and to march overland all the long way home to Persia. Many never reached there.

Thus Greece was saved. The West was not to come under the rule of the East. It could continue to work out its new ways of living—with freedom for the citizens, and government by its own citizens for the State.

Over and over again, through the long course of history, the East and the West have met again in battle. Can you tell how the same thing happened again in 1941?

To Talk About

Do you think that your own home is a democratic place to live in?

Why is it easier for small groups to be democratic than for a huge country like Egypt or Babylonia or Persia?

Why do you suppose the Greeks believed in many gods instead of one?

What are some of the things the Greeks learned from the Egyptians? from the Babylonians?

Why is Greece called "the West," while Asia Minor (only a few miles away) is part of "the East"?

What kinds of contests are carried on in the Olympic games nowadays?

Do you think people should always want their prizes to be in money?

Are Athens and Sparta still cities in Greece today?

Do you like the Spartan way of life?

Does our country allow foreigners to become citizens?

Does democracy mean that a person may do anything that he likes?

Do you think that people nowadays take as much interest in their country as the Greeks did?

Could Greek children learn much from their mothers?

What country in the East did our country have to battle in 1941? Why?

To Do

Try three different plans in your classroom for a week each. One week you may have order without freedom: the teacher makes all the rules. The second week you may have freedom without order: every child does what he pleases. The third week you may have both freedom and order: teacher and pupils make the plans together. Which plan do you like best?

Find out from your encyclopedia why a very long race is called a Marathon.

You might like to give the program about Greek gods mentioned on page 226. Each pupil might choose one god or goddess and prepare a story to tell to the class or at an assembly.

Ask your art teacher to give you some lessons on how to show movement in your drawings.

Hold some Olympic games in your own school.

Can you find a book written in the old Greek language? The librarian may be able to help you.

Compare the way a Greek man spent his time with the way that a man spends his time today.

Greek Art—the World's Best

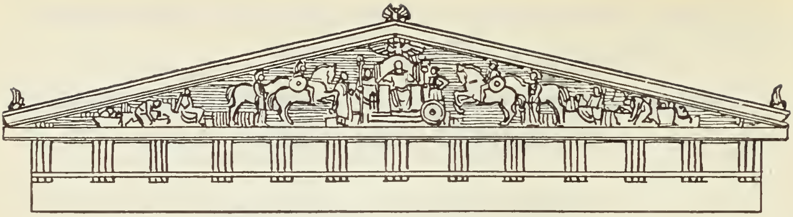
Architecture. Although the Greeks were not interested in building splendid homes for themselves, they thought that nothing could be too good for their public buildings. After the Persian Wars came to an end, the trade of Athens grew very fast; she became wealthy. She could afford to please herself.

At once the Athenians, under their leader Pericles, set to work at building. In their hills was much marble: some, a light blue; some, faintly pink; some, very white. Of such beautiful materials as these they built new temples for their gods and new meeting places for the citizens.

From the Egyptians they borrowed the column-and-lintel style. But they had no desire to make huge buildings. The Greek idea was, instead, to make things of only medium size, but perfect in form and line.

A Greek temple was usually a single room with a row of columns running around all the sides. A statue of the god in whose honor the building was erected, was placed at the back of this room. The most famous of all the temples —and very likely the most famous building the world has ever known—was the *Parthenon.* It, together with many others, was on a hill called the *Acropolis.* It was in honor of Athena, goddess of wisdom.

The earlier kind of column was like that shown in the picture on page 244—simple, heavy, plain, and of great dignity. This kind was called Doric.



A Gable

Later the Greek cities in Asia Minor used a lighter style, more slender and taller, with curved lines for the *capital* of the column. This kind was called Ionic.

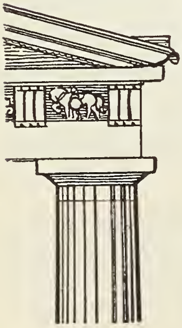
Most people ever since have followed the Greek ways of making columns. Are there any Doric or Ionic columns on buildings in your city?

A flat roof was not so good in Greece as in Egypt and Babylonia; for it often rains there. So the Greeks raised the roof to a peak. This left a three-cornered space at the top; we call it a *gable*. Can you see gables under the roofs of any buildings in your city? This space was a good place to decorate.

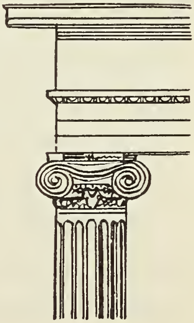
The sculptors and the architects of Greece always worked together, hand in hand, to make their buildings beautiful. Wherever there was a space that needed decoration, the sculptors made some carvings for it. They carved figures in high relief to fill the gable and also to fill the spaces between the columns at the top.

Inside they placed a wide band of carvings all around the building, just

A Doric Column



An Ionic Column



above the columns. Such a band of carving is called a *frieze*. Have you ever seen one?

That completed the temple. It seems very plain and simple, does it not? But you must remember that the Greeks were not trying to see how many different kinds of styles they could make. They worked until they found a few styles that seemed to them perfect. Then they liked to use those.

Sculpture. The Greek sculptors carved statues in the round, as well as in relief. The subjects they liked best were the gods. Great athletes served them as models for their statues. They carved directly in stone, without first stopping to make clay models, as most sculptors do today. Phidias was the greatest of them all.

The Greeks did not want to make a statue look exactly like a person. They wanted it to represent something noble and perfect, not a weak human being. Their statues of Zeus were to stand for the highest power; of Athena, the greatest wisdom; of Aphrodite, perfect beauty. Even from pictures of their statues you can get that calm, sure feeling of "the best" in idea and in form.

Thousands of copies of Greek sculptures have been made. Today they stand in buildings all over the world. Are there any in your city?

About Greek painting we know very little. Few paintings have come down to us; for it is much easier to destroy them than to destroy such things as sculptures in stone.

Music. Music was very important in the Greek world. Indeed, the very word itself is Greek. You already know that music was a necessary part of the education of every

Athenian boy. Each one had to be able to play an instrument; he had to play his own music as he sang. There was no "part singing," such as we have.

The Greeks believed that a person would not be likely to think ugly thoughts or to do ugly deeds if he sang and played often. Do you yourself feel better after your class has sung songs that you like?

Several different kinds of harps, or *lyres*, were used. The players knew how to "stop" the strings with the fingers. Perhaps some musician will show your class how that is done. There were also flutes, bells, and cymbals. The Spartans were fond of warlike music; they always played and sang before they marched forth to battle.

All the Greek musicians were careful about keeping time (*rhythm*). They also liked to follow a *melody*, or tune, with the notes following one another in a group. Their scale had five notes, rather than eight

Vatican Museum

The Discus-Thrower. This Same Athlete Might Serve as a Model for a Statue of Zeus

notes,[1]—the kind of scale that we use now. Can you sing the eight notes of our scale?

Poetry. From the earliest times the Greeks had loved poetry. You remember reading that Homer was known as widely among them as the Bible is known among us.[2]

They even wrote their plays in poetry. They were the first people to write plays to be acted on the stage; we got that idea from them. The number of chief actors was always small—not more than three. But there was a large chorus whose members sang or recited in concert. The chorus told the audience what was happening when the actors were not on the stage. They also talked back and forth with the actors.

The plays were given in the daytime, out of doors on a hillside, under the clear blue sky. The theater was built in the form of part of a circle, with a low wooden building across one side. The "stage" was an open space in the center. There was no curtain. The rows of seats were on the hillside.

Greek plays always taught the people a good lesson. Most of them were about gods and heroes. So attending a play was considered a part of religion. Twice a year, for three days at a time, all the people gathered to watch one play after another. The charge was very small—only about six cents in our money. The State paid the way for the poor who could not themselves afford to pay. For the Greeks believed that all the citizens should learn the lessons that the plays taught.

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[1] Possibly the Chinese may have learned their five-note scale from Greek travelers.

[2] They loved fables too. Have you ever read any of the Greek stories called *Aesop's Fables,* in which animals speak and act like people?

A Greek Drama Given in the Theater. Can You See the Chorus?

The audience listened carefully. After having seen good plays during their whole lifetime, they had very good taste. They knew how to judge whether a play was good or bad. They did not want to waste their time on bad plays.

Do you think that American audiences today have as good taste in motion pictures as the Greeks had in plays?

Certain Sciences Begin in Greece

The beginnings of history and geography. None of the people in any country about which you have read so far had ever written any *history*. Sometimes their kings had carved, in stone, lists of their great wars. But they did not keep records of everything which happened, so that in years to come someone could read all about it.

The Greeks began to do this. One of them, named Herodotus, decided to find out what really took place during the Persian Wars—then long since ended. So he traveled about and looked at all the spots where battles had been fought. He talked to old men who had taken part in them. Then he wrote the story, trying very hard to be fair to both sides. It was the first history; so he has often been called "the Father of History." People have been writing such books ever since. You are reading one now. In fact, our very word "history" is a Greek word.

Some of the later Greeks were not quite satisfied with Herodotus's writings. They were not sure that he had always been told the truth by all the old men. They wanted to have a better story of a later war between Athens and Sparta.

This time the man who meant to write history went at his work very differently. He himself was present at many of the battles; he wrote what he saw with his own eyes, not what he heard from others. This man's name was Thucydides.

What did he do about the battles which took place when he was not there? He talked to the generals on both sides: first he heard one side tell its story; then he heard the other side.

Have you ever heard two boys tell about a fight they have just had? Did their stories agree? Perhaps not. Perhaps each one said that the other was to blame. And perhaps each said that he got the better of the other.

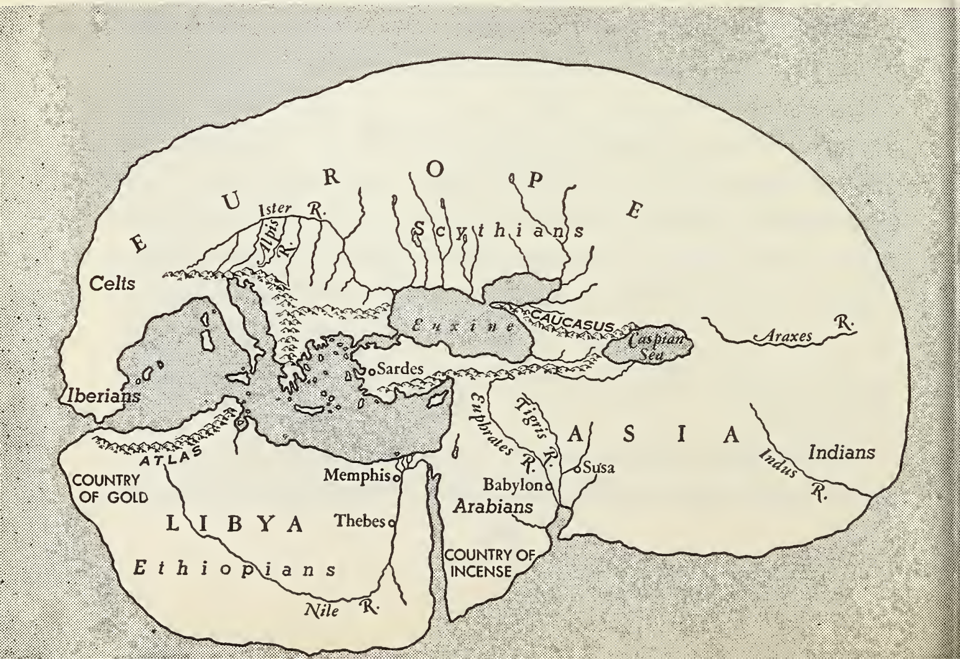
The generals did the same thing. So, each time, Thucydides first wrote down the points about which the two agreed. For example, they might agree that the fighting began at sunrise, that it took place on a hill beside a stream, and that the Athenians crossed the stream. They might agree that the Spartans still had the hill after the battle was over.

Thucydides called "history" only the parts of the story about which the two sides agreed. When the Athenians told about their own great deeds (which the Spartans had not mentioned), Thucydides wrote that down too. But he did not call it "history"—he called it their "opinion," or what they believed. When the Spartans told about how much braver their soldiers were than the Athenians (which the Athenians had not mentioned), Thucydides called that "opinion" too—not history.

Do you think you could use his plan the next time you hear children telling two different stories about the same happening? His plan is called using the "historical method."

Other kinds of books were written besides history. Herodotus also wrote descriptions of the countries that he visited—Persia, Egypt, Italy, and the land around the Black Sea. He wrote whether they were warm or cool, whether they had much rain or little, whether their soil was good or bad. He described the plants and animals.

The World as Herodotus Knew It



He told about how the people earned their living. Today we call such writings "geography." (That also is a Greek word.) So Herodotus was "the Father of Geography" too.

Other sciences. You can see how different the Greeks were from the earlier peoples. They were not merely workers; they were thinkers also. They liked to wander around and look at things. They were always asking questions; especially did they like to ask "Why?" "What caused it?"

When anyone gave them an answer, they thought about that too. The Egyptians and Babylonians had taken whatever answer their leaders and wise men had given. They did not seem to doubt it. But not the Greeks! When anyone gave them an answer, they thought it over and then asked, "Can you prove it?" And the explanation had to seem to them within reason. Their minds were as free as their government.

What the Greeks wanted most of all was *to find out*. They cared little about *using* the science that they discovered. They were not interested in making inventions. They were satisfied just with *knowing*.

It is too bad that they had a poor plan for using numbers. The Arabic figures and the decimal system of counting were not known to them. Therefore they never were able to measure very exactly. But they could reason very well: they were the first people to teach themselves *how to think* in an orderly way. They worked out many of the sciences that you will study in the upper grades and the high school. You will think that these are hard to learn. And you will have great respect for people who were able to think them out in the first place.

The Greek thinkers did not believe that the gods caused the sun to shine, the rain to fall, the seasons to change. They did not believe that diseases are caused by "spirits" or by the anger of a god. They believed that all these things have natural causes and that they themselves could learn to understand nature.

Because they were better in science than the older peoples, they were also better doctors. One of their great doctors, Hippocrates, is called "the Father of Medicine." He had many young men studying under him. He made them all promise that they would always do their very best for a sick person. And to this day many young men who are studying to become doctors make that same promise. It is called the "Hippocratic oath." Your own doctor may have taken it.

If the Greeks had had microscopes and telescopes, they could have made many more discoveries in science. They went about as far as it is possible to go without the help of those instruments.

All these things, however, were known only by the wise men. The slaves, the farmers, the tradesmen, and the women in the city-states knew no more about science than the people of the older countries had known.

An End to Freedom

After their great years of glory, the Greek city-states stopped growing. Then they lost their freedom. Their independence came to an end.

How could such a thing happen? It was because the city-states had never learned to work together well. Each one feared that the others might try to control it. Each was determined to have its own way. It was not willing to "give in" when the others all wanted to do something different. "Independence" to the city-states meant always having their own way. Co-operation was a lesson they never learned. They might work together for a short time if an enemy attacked them. But as soon as peace was made, they would fall apart once more.

So wars went on very often among the city-states. Whenever Athens became great and powerful, all the others joined against her. Over and over again they destroyed her ships and her army. Then Sparta would become great; and the same thing would happen to her.

Thus the city-states wore one another out. They spent their strength and their riches in fighting one another. Their business was ruined and they were left poor.

Today we may look back and decide that the Greek states were very foolish. We may say: "What a pity that they could not learn their lesson! How silly of them not to join together! Any one of them ought to have been able to see what should be done."

And yet in our own times, countries are doing the very same thing. They are making the same mistake that the Greek city-states did so many centuries ago. And because they have not learned to work together well, the whole world suffers. They do not work well in the United Nations.

Union came at last to the Greek world. But it was not a union on which the citizens themselves had agreed. It was not a thing that they were glad to have. It was forced upon them by someone from the outside. They gave up, not *part* of their independence in order to work together, but *all* of it because they were conquered.

The Great Age of Greece had lasted only three centuries. Egypt had lasted forty centuries.

Who was this "strong man" from the outside, who conquered the Greek states? He came from the little country of Macedonia. (Find it on the map on page 255.)

Macedonia was a wild mountain country. Its people were much like the Greeks. Their king had seen the weakness of the Greek states and had made his plans.

First he built up a strong army. His men were not farmers or traders, who fought only when their country was in danger. They made a regular business of being soldiers. We call such an army a *standing army*; it can usually beat an army of other men. The Macedonian soldiers learned how to obey. You know that that was a thing which most of the Greeks had never learned well.

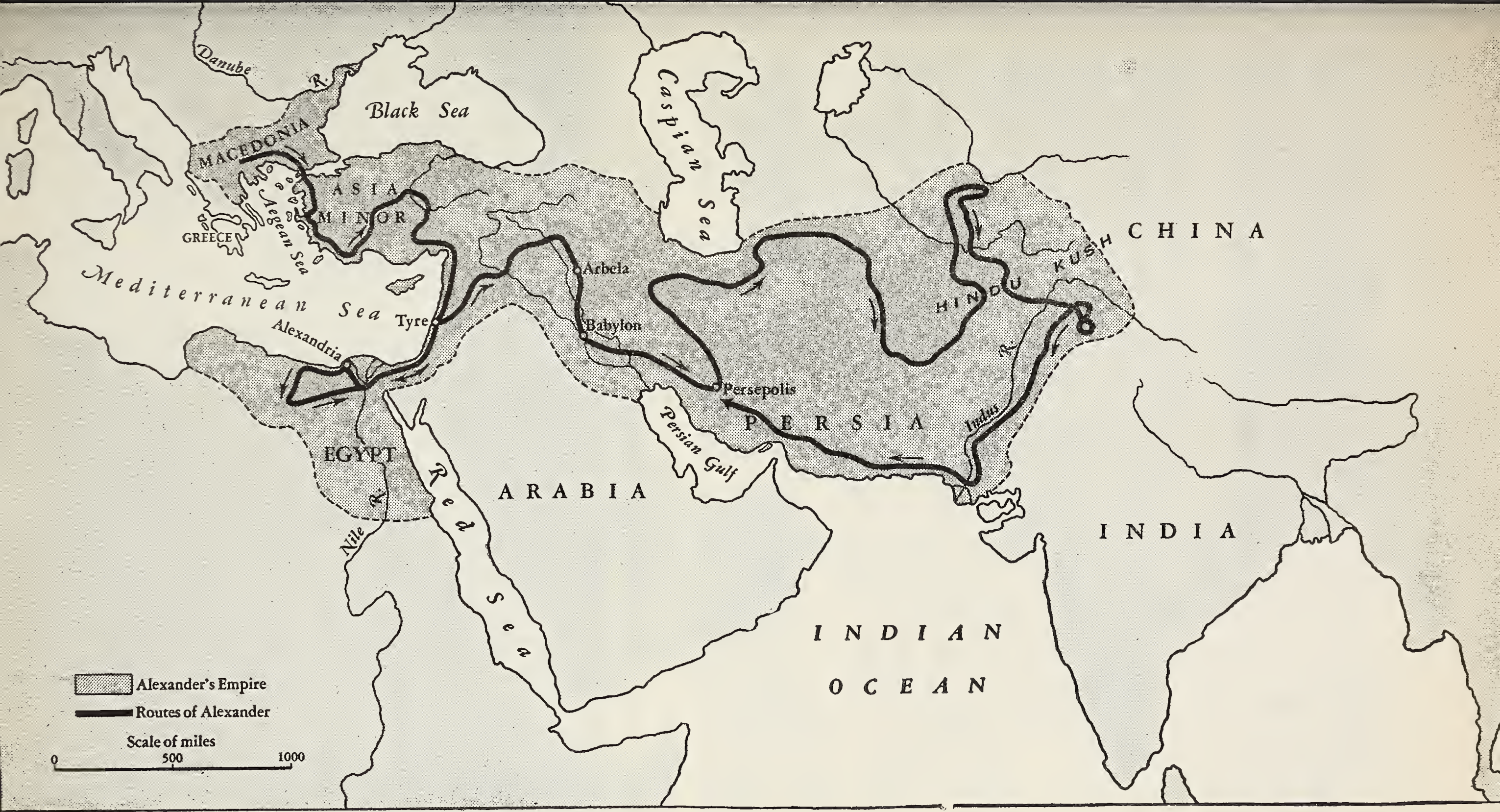
The king set about conquering the Greek states one by one. Before he had carried out his plans, he was killed. His young son, Alexander, then took up the work.

Alexander had been educated by the greatest of all the Greek wise men, Aristotle. He thought of himself as a Greek. He determined to go on with the work of uniting all the city-states under one rule.

But he did not intend to stop there. He dreamed of conquering the whole world, and he set about it to make his dream come true.

After conquering the rest of the states in the Greek peninsula young Alexander turned against the great Persian empire. Though it had failed in the attempt against Greece, it was still strong. A few years earlier no one would have dreamed that a Greek might one day dare to attack it.

The Greeks and the Persians met in Asia in a great battle. The year is an easy one to remember: 333 B.C. The Greeks won, and then all western Asia lay open before them.



Alexander's Empire

Alexander, however, had no idea of leaving enemies to attack him from behind. So he marched southward down the shore of the Mediterranean, winning everywhere that he went. He took Egypt; and that once-great empire became a Greek province.

Then Alexander felt safe in marching far into the heart of Asia. He marched clear to India, and north over the mountains into western China. Even today people in the middle of Asia sometimes dig up old Greek coins. These may have been dropped by Alexander's soldiers long ago, or they may have been used in trade.

A glance at the map will show you how large was Alexander's empire. Even today we would think it huge.[1] It was the largest empire that one man had ever ruled up to that time.

Alexander's dream had been to unite the whole world. He hoped that all people everywhere might share in the same civilization. He succeeded in uniting most of the world as it was known at that time. Little wonder that he was called Alexander the Great!

You can see from the map, however, that his empire did not take in much of India and China. And there were large parts of Europe and Africa outside it, too. In fact, nobody in all history has ever really ruled the whole world.

Western ideas move east and Eastern ideas move west. In order to spread the Greek ideas, Alexander built new cities everywhere that his armies went. Many of them were called Alexandria, after his own name. Can you find the city of Alexandria in Egypt?

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[1] You might enjoy finding out what countries of today were covered by Alexander's empire. A map of Asia, Europe, and Africa in a geography book will help you.

In these cities some of his soldiers settled down to live. They married native women. They taught the East some of the ways of the West. Their children were half Greek and half Eastern. Especially did these men spread knowledge of Greek art and music. The Greeks also taught the East better ways of farming.

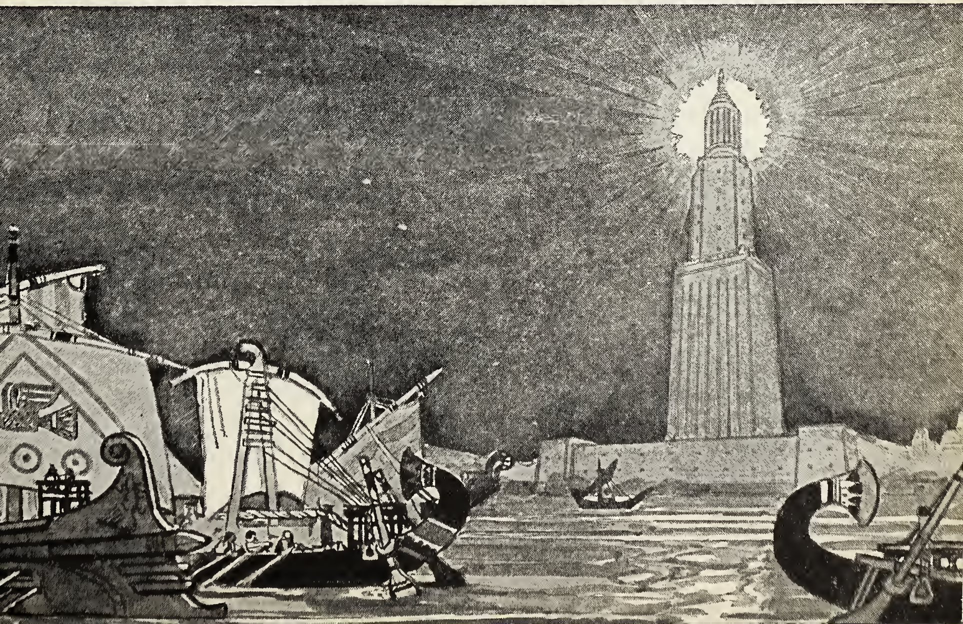
But when two peoples live close together, the changes are never all on one side. It is true that Greek ideas helped to change the East. But Eastern ideas also reached the West. Some of those were good; but some were bad.

One of the bad ideas was about the power of the king. You remember that the Eastern kings had had a great deal of power; they were even thought of as gods. The people had to bow down and kiss their feet. The king was master; his subjects had to take orders from him.

Alexander was quite willing to become this kind of ruler. But how strange such customs seemed to the Greeks, who had always been free! Do you suppose they liked them?

A

The Great Lighthouse at Alexandria



The Eastern ideas about what a king ought to be and what he could do entered the West through Alexander. They held on there until later times. And even our own world has found it very hard to get rid of such notions.

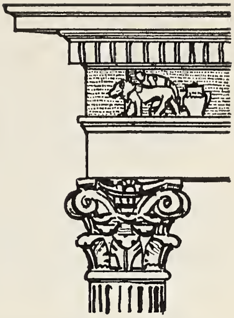
After Alexander's death his great empire fell to pieces. No man was strong enough to keep it together. And no "strong man" since has ever been powerful enough or wise enough to rule the world.

Later Period of Greek Art and Science

If Pericles could have visited one of Alexander's cities, he would have felt himself a stranger. The things he could see would not have seemed to him to be Greek at all. To show the difference between the two civilizations, even different words are used. The word to describe the early Greek ways is *Hellenic*; the word to describe ways of living after Alexander is *Hellenistic.*

In the Hellenistic world, ideas were mixed—from India, Persia, Babylonia, the Near East, Egypt, and Greece. The simple, independent life of the city-state had gone forever. Larger states, stretching over great areas, had taken its place. These states took their ways of living from many lands and from many times.

The people who lived in these larger countries had learned to want one another's goods. Those in the West now wanted silk, cotton, and spices from the East. Those in the East wanted metals and furs from the West. So a busy trade was carried on by camels traveling overland and by large sailing ships. To help these ships to land safely, the world's first great lighthouse was built at Alexandria. Regular banks were also set up to help the traders.



A Corinthian Column

As the upper classes grew richer, they were no longer willing to live in the plain, simple houses of the early Greeks. They wanted huge palaces, with floors of tiny pieces of marble set together in designs (a mosaic). They wanted gardens and parks, like the Persians'. They even had running water in their houses!

Their clothing was now of silk, rather than wool; and they wore much jewelry. They curled and oiled and perfumed their hair, the men as well as the women. Their slave cooks had to be specially trained in Alexandria.

Of course the poor still lived in the same plain, simple way that they had always lived.

Architecture and sculpture. You will not be surprised to learn that the ways of building had changed, too. That was especially true in Alexandria and the new large cities in Asia. Doric columns were too plain for the new taste. Instead, a kind was used that decorated the capital with leaves. This was called the *Corinthian.* You notice that it is much more fancy than either the Doric or the Ionic.

The new Greek cities also borrowed the use of the arch from the Near East. And city-planning became a regular custom.

Much the same kind of change could be seen in the sculpture. Statues of the gods were no longer wanted. Instead, the sculptors made statues of persons. Not all of them were grand and noble. Some showed ordinary people going about their daily duties in life. This kind of art is called *genre.* Have you ever seen any of it?

The base on which a Hellenistic statue stood was also covered with decorations. The day of plain and simple things had gone by.

Music was liked more than ever. Lyres were made with a larger number of strings. No longer were people satisfied with hearing only one or two instruments at a time. They wanted large groups to play together as an *orchestra*.

Plays. The great plays of the past were still given on holidays. What the people really liked, however, were not stories about the gods. They liked funny plays about things that happened in everyday life. Such a play is called a *comedy* of manners. It was the beginning of our own comedies. Have you ever seen a comedy in a motion picture?

Science. You may feel that Hellenistic art and writing were not as great as those of the older—Hellenic—times. But Hellenistic science made wonderful progress. It continued to grow long after freedom was gone.

Much of the science was taught in a great school, or *university*, at Alexandria. This great school was supported by the State (a new idea). Its library had seven hundred thousand rolls of papyrus. (Does your state have a state university?)

The men at the university studied all kinds of science. They cut up the bodies of living animals

The Metropolitan Museum of Art

Genre Sculpture of Hellenistic Times

and even of human beings, to study the organs. They made a dictionary. They worked out a rule for finding the area of a circle. (You probably do not know how to do that.) They knew that the earth is round. And by measuring shadows they were able to tell very nearly the size of the earth.

Not until much later would wise men ever again know as much science as did the Hellenistic Greeks. Let us again remember, however, that this knowledge was held by only a few. Most of the common people knew nothing whatever about science. They continued to think as their fathers had thought before them. They still believed in "signs" and magic and the old gods.

What happened to the Hellenistic world? Why did it too pass away? Mention has already been made many times of the people who conquered it. They were mentioned on pages 133 and 166, because they conquered Egypt and Babylonia. They were the Romans.

So now we must turn back many centuries. We must find out how it happened that the Romans were able to conquer so many countries.

To Talk About

Do people nowadays believe that a house must be big in order to be beautiful?

Do you know how a flute is played? a harp?

Have you ever heard of plays' nowadays being given out of doors?

What kinds of present-day motion pictures do you think are poor? What kinds of radio programs? Do you use good taste in choosing the programs that you listen to?

Have you ever heard different people describe the same accident? Did their stories agree? Why not?

What do people today believe about the causes of disease?

What is a microscope? a telescope? How do they help in the study of science?

Do countries today work together well? Give examples.

Is there any ugly spot in your city which the Greeks would have made beautiful? What can you do about it?

Can you find out what is happening in Greece today? How is it ruled?

To Do

Can you bring to class small pieces of different kinds of marble?

Make a list of buildings in your town in which may be found Doric, Ionic, or Corinthian columns.

Perhaps your art teacher can help you to make some carvings from soap.

Can you start an orchestra in your school?

Your class might dramatize a Greek story to give at an assembly or at a parent-teacher meeting.

Try the "historical method" when one of your friends brings you a tale about the bad doings of someone else. Tell the class about it.

Ask your doctor if he took the Hippocratic oath.

Make a list of places in your city where there are mosaic designs in the floors or on the walls.

If possible, make a trip to a museum to see the rooms showing Greek life.

Order under the Law

The Italian Tribes in Their Homeland

The people that we have called the Romans came from the same tribes as the Greeks. They had wandered into their homeland from the north. The map on page 274 shows you that the mountains of Italy are shaped somewhat like a new moon; the open part of the moon is toward the west.

In that section the tribes could settle down. They could carry on agriculture in the lowlands. They could plant vines and olive trees on the lower slopes of the mountains. They could graze their cattle on the slopes higher up. They had little to do with the countries to the east. Their land "faced west."

Because it faced west, the people turned their backs on the older civilizations of the Mediterranean. They could not easily learn from them. For many years they knew nothing about those lands. So their civilization grew up much more slowly than that of the Greeks.

Stories and facts. Later Romans loved to tell stories about how their city had been started. They said that a certain king's daughter had twin sons named Romulus and Remus. The king feared that they might take his throne when they grew up. So he set them on the river Tiber in a basket.

The basket floated ashore in a lonely spot. There a wolf found the boys and brought them up. When they were young men, Romulus started the city of Rome.

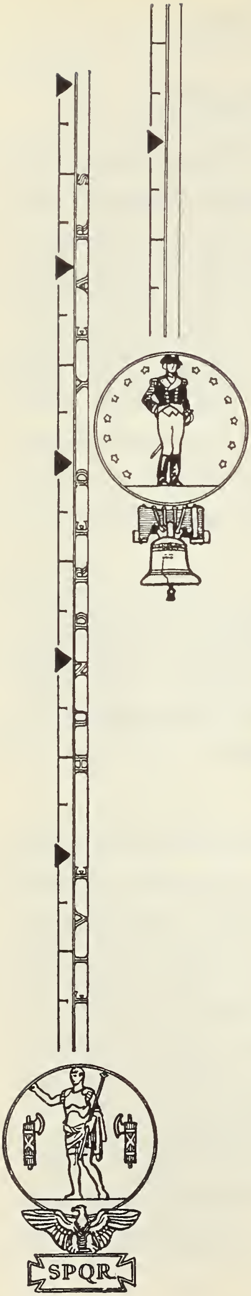
The fact, however, seems to be that the village of Rome grew up at a ford in the river Tiber. Its seven hills were more healthful than the low, wet places around it. It was called the City of the Seven Hills.

Across the river to the north was another group, the Etruscans. Possibly they had come from Phoenicia in the first place. They were good businessmen. They knew how to use the arch in building. And they were expert workers in metal.

All these things the Etruscans taught the Romans. The Romans had few ideas of their own. But they were hard-working people. They knew how to plan and how to manage. These things would take them much farther than many brighter people would go.

For a while some Etruscan nobles made themselves kings in Rome. During this "period of the kings" the swamps were drained. The people would no longer suffer so much from the "Roman fever" (malaria). A large meeting place was set aside in the center of the village. This was the *Forum*. In it the people did their trading. They talked with one another to learn the news.

But the later kings did not rule well. The Romans rose against them about the year 500 B.C. and drove them out.



Length of Time That the Roman Republic Lasted; Length of Time That Our American Republic Has Lasted

How the Early Romans Managed Their Group Life

The Romans wanted no more kings. But they had deep respect for law and order; these things they intended to keep. They would have only "the best" as their leaders. Who would these be? They believed that the best class to act as leaders would be the nobles. To be sure, that was rule by only one class. But the Romans believed that the upper class would give the State better government than any other class could do. (Why do you suppose they thought that?)

The old men (or the *Senate*) were the wisest of this group. (That is what our word Senate really means.) For five hundred years they were the real rulers of Rome, although two men called *consuls* were chosen to act as the chief officers.

You notice that the common people had very little to say about what should be done. They (the farm laborers and other workers) could have a meeting of their own once a year. But the Senate was the real power.

Rome was not a democracy. But for five hundred years it was a *republic*; some of the people ruled.

The Romans understood, from the beginning, one thing that the Greeks had never learned. If people were to come together and make up a good government, each person could not have full freedom or independence. Each would have to give up some of his liberty to the government. Then the government would be strong enough to carry on its work. Different cities would have to do the same thing.

The Roman gods. The Roman gods were almost the same as the Greek, but they had different names. Here is

The Roman Senate. These Men Made the Laws for the Republic

a list of some of the gods to show you how much the two religions were alike.

Greek	*Roman*
Zeus	Jupiter
Hera	Juno
Poseidon	Neptune
Athena	Minerva
Hermes	Mercury
Ares	Mars
Aphrodite	Venus
Demeter	Ceres

(Compare with page 226.)

The Romans believed that the will of the gods could be learned from certain "signs." These might be marks on the liver of a sheep. Or they might be the direction in which flocks of birds flew. No important business was ever begun without first trying to read these signs, or *auspices*. (Do any of our meetings today ever begin with a prayer?)

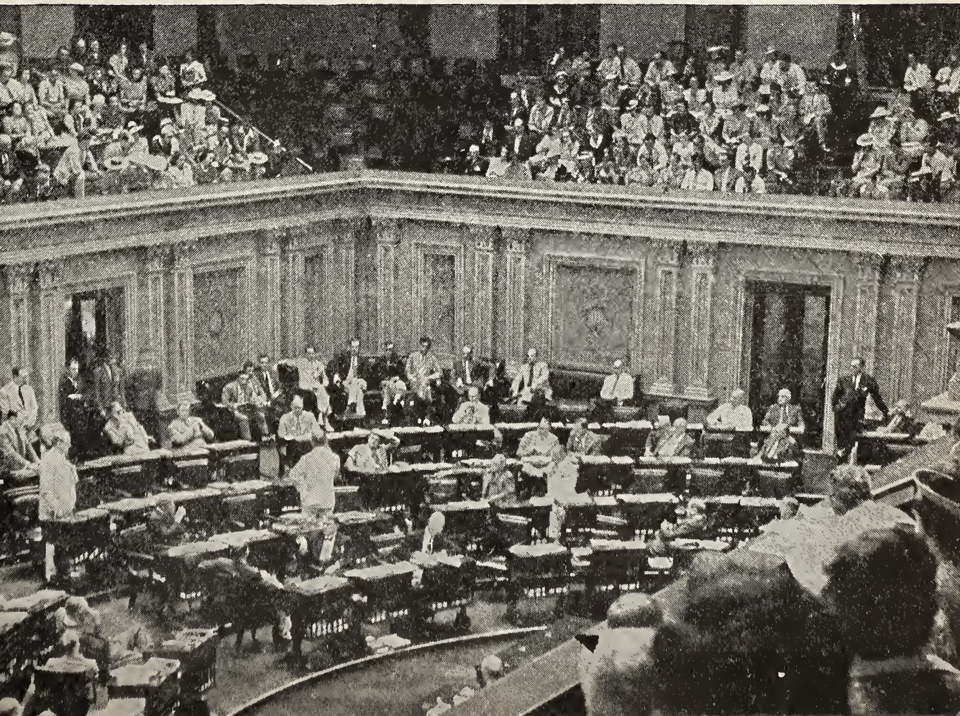
The goddess of the home fire was named Vesta. In her temple a fire was always kept burning. Six girls, called Vestal Virgins, were set aside to watch this fire.

In our own times the idea of a never-dying flame is used at the Tomb of the Unknown Soldier. Your teacher can tell you where that is.

Simple everyday life during the time of the Republic. During the early days of the Roman Republic everybody lived very simply. Even the members of the upper class did their own farm work. For you remember that the Romans were

Our Own United States Senate. The People above in the Balcony Are Visitors

Press Association



a people who liked to *act*, just as the Greeks were a people who liked to *think*.

Whenever the country was in great danger, one man was chosen to give orders to all the rest. He was the *dictator*.[1] Once when messengers came to call such a man, they found him plowing his fields with the help of his oxen. When the danger was over, the dictator returned gladly to his work. (Some of you might like to read the story of Cincinnatus. The name of our city Cincinnati comes from his name.)

Roman houses of this period were one-room buildings of sun-dried brick. The furniture was as plain as that of the early Greeks. The chief foods were bread, fruit, olive oil, and wine, with meat and vegetables once a day.

Everyone got up early in the morning and worked hard until noon. Then they all had a nap. After that they worked again until nearly sunset. A bath and a light supper finished the day for them.

Their clothing was much like that worn by the Greeks. The men who were citizens were allowed to wear also a sort of white wool blanket thrown over one shoulder. This was the *toga*. A senator might have a purple stripe around the bottom of his toga. Wherever he went, people would know who he was. He was expected always to behave with great dignity.

Home life was very different from that of the Greeks. Women were more respected. They lived in the same part of the house as the men. They sat at dinner with their husbands. The love of the members of the family for one another was very strong. (Do you think that that is true of the members of a family nowadays?)

The father, however, had complete control over both the mother and the children. He could even kill them if they did not obey, and the law would not punish him. That was thought to be his right.

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[1] Compare him with a Greek dictator (p. 234).

Parents were careful to teach their children the kinds of work that they would need to do. A boy went about during the day with his father; a girl helped her mother.

Some of the boys went to school for a few years. They learned to read and to write. And they learned the *Twelve Tables of the Law* by heart; these were written laws. A person who did wrong could not say he didn't know that his deed was "against the law."

At the age of fifteen or sixteen a boy became a full citizen. He marched with his father to the Forum. There, in full sight of the crowd, his name was written down on the list of citizens. But for a few years afterward he was expected only to listen while the older men spoke.

Then he became a helper to some of the government officers. In this way he learned to carry on the public business. If he chose to do so, he could spend ten years in the army and then become an officer himself.

You can see how well the Romans learned to work together. Every person learned to obey the law. Everyone lived in an orderly way, following the rules. He frowned upon any who expected always to have their own way. He believed in good order. Such a people would be able to keep up a splendid army. Why?

Rome Begins to Spread Her Power

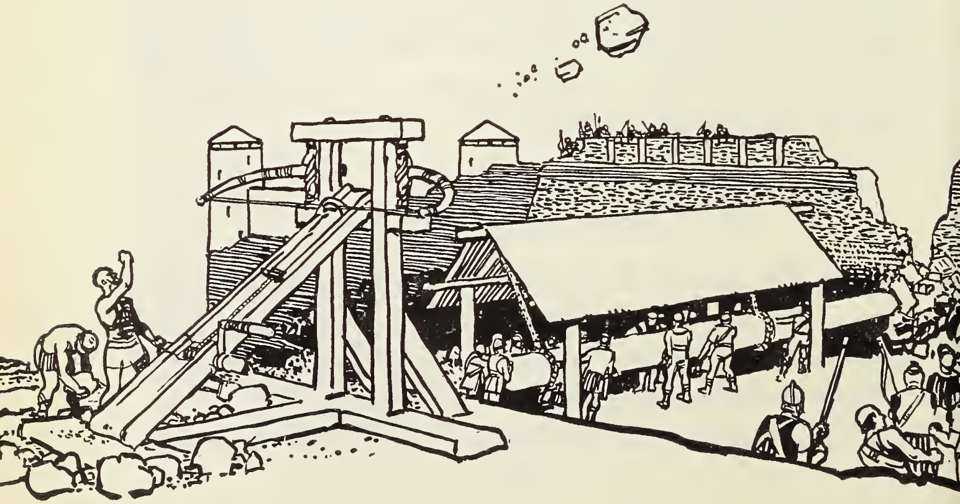
Spreading throughout Italy. People who could keep such good order among themselves would be likely to make good rulers of other tribes too. As the years went by, the Romans conquered their neighbors one after another. By 275 B.C. they had taken all the peninsula of Italy. They had then been at war for so many years that they were the best soldiers in Europe. They did not have to depend on the brains of one man (as Alexander's empire had done). All the members of the Senate helped to make the plans. When one wise man died, there were many others to take his place; and all of them knew what was going on.

The army learned how to use new weapons in breaking down the walls of a city. Some were called *catapults* and some were called *battering rams* (see the picture below).

How could so many conquered tribes be kept in order? Do you remember how Assyria had ruled? how Persia had treated her provinces?

Rome decided that the best way was to make some of those people citizens. Then they too would be Romans; they could help to rule the rest. At first this right was given to only a few. That seemed to work so well that more and more of the conquered people were made citizens. In 89 B.C. all free Italians were made Roman citizens. Com-

A Catapult and a Battering Ram. The Catapult Throws Stones; the Battering Ram Breaks Down the Wall



pare Rome's plan with that of the Greek city-states! (See pages 231, 235.)

Rome began also to build roads in all directions from the city to these newer parts. Over these roads much trade could be carried on. The new citizens could visit Rome and learn to know the city. Also, over that same road an army could be sent out very speedily to put down trouble if there was any need.

Along the "heel" of Italy's "boot" (see the map on page 274) there were low plains. There the Greeks had made many *colonies*. They had built beautiful cities. They had settled also on the rich island of Sicily. Rome's army took these Greek colonies one by one.

The conquered Greeks had much to teach their new masters. They taught the Romans (an inland people) how to build ships. They taught the use of the alphabet, and spread the use of coins as money. They taught the Babylonian ways of weighing and measuring.

The Romans fell in love with Greek buildings and art. They brought home Greek architects to build houses and temples for them. They bought Greek slaves to teach their sons poetry and how to speak in public. They even sent their sons to study in Athens and in Alexandria.

Greek civilization became so much a part of Roman life that you often read about the Greco-Roman civilization. What do you think that must mean?

Spreading through all the Mediterranean world. When Rome took the island of Sicily, she found herself a near neighbor of Africa. On a clear day a person there can almost see its northern coast. (See the map on page 274.)

On this northern coast of Africa was located a great and rich trading city. Its name was Carthage. Carthage had been started by traders from Phoenicia. Therefore it had always known the Babylonian ways of doing business. Long before Alexandria had been thought of, Carthage had been carrying on trade.

It had sent ships all over the Mediterranean. It had sent to the British Isles for tin. Its sailors had gone far down the western coast of Africa. It ruled much of Spain, from which silver came. Carthage was three times as large as the city of Rome. A book on farming, written by one of its citizens, had greatly improved agriculture in Italy itself.

At last Rome and Carthage found themselves face to face in Sicily. Each wanted to rule the western Mediterranean. Which would win?

Carthage seemed to have the better chance. It was the richer, and it had a large *navy* (a fleet of warships). But Rome had her strong points, too. Rome had much the better army, made up of her own citizens. The men of Carthage did not like to take time away from their business to serve in the army. They had always been in the habit of hiring soldiers instead. That proved to be a bad plan. Can you see why?

In the first war between the two, in 264 B.C., Rome was badly beaten. These wars are usually called the Punic Wars. The word Punic means Phoenician. But under her Greek teachers Rome also set to work to build a navy. Things were not so easy for Carthage after that. Rome won time after time.

Then one of Carthage's young generals thought of a daring plan. He would lead an army from Africa through Spain, through Gaul (as France was then called), across the Alps and down into Italy. The name of this young general was Hannibal.

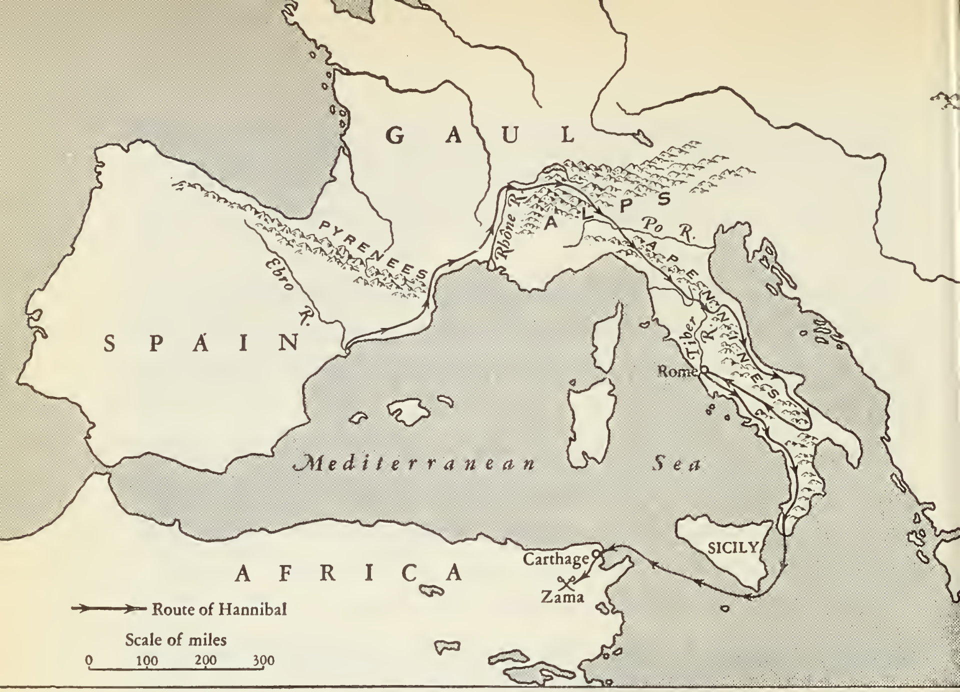
Hannibal's plan was almost certain to fail. He would have no way of getting supplies for his army after it reached Italy. But there seemed to be no other way to save the city he loved so well.

For a time he did the impossible. He marched through Spain. He led his soldiers and his war elephants across the river Rhone. He even climbed the steep slopes of the Alps in the dead of winter.

Then for *fifteen years* he kept up the fight in Italy. He fought battle after battle—and won. The story of his attempt is one of the most exciting in all the history of war.

Hannibal Crossing the Alps. The Romans Are Rolling Stones Down upon Him from the Mountain Peaks

A



Hannibal in the Punic Wars

But he was worn out at last. For years his troops had not been able to get proper food or supplies. Rome saw her chance. She attacked the city of Carthage. The leaders then called Hannibal home from Italy to protect them. He came, but he could not do it. He was beaten and had to flee for his life far into Asia. There he died a lonely death—"history's most glorious failure."

With the Third Punic War came the end. Rome took Carthage again, and this time she meant her victory to last. The city was completely destroyed. Not one stone was left standing upon another. The place was sown with salt, so that not even grass would grow there again.

There was no question that Rome had won. She was ruler of all the western Mediterranean. She was also a *naval* power now, with many ships, and lands overseas, as well as the strongest military power. One lesson had been clearly shown in the Punic Wars: wealth cannot buy power for a state. The citizens must be willing to fight, if necessary, in order to protect it.

Do you suppose that Rome would stop there? Would she be satisfied to rule only the western Mediterranean? Her proud Senate looked about and saw that the world of the eastern Mediterranean was made up of small states. These were the parts into which Alexander's empire had broken up. They would never be able to stand against a strong Roman army.

So an army was sent into Macedonia, and that country became a Roman province. Another army was sent against Greece, to take the city-states. A third conquered the states in the Near East. Egypt saw what must soon happen to her; she gave up without much fighting.

Thus Rome became ruler of the Mediterranean world. She never succeeded in taking all of Persia, and she had not yet learned about India or China. But by 146 B.C. she already held an empire greater than Alexander's.

Can the Republic Rule the Faraway Provinces?

For centuries the old countries of the Near East had been storing up treasures. They were very rich. The Romans took away all this wealth. They robbed the temples, the banks, even the homes. One general alone sent back to Rome two hundred and fifty wagonloads of Greek carvings.

Who should rule the new provinces?

Officers were sent out from Rome. They liked their new job. They found it was easy to get rich quickly. After only one year, many of them returned to Rome as millionaires.

In the provinces they laid taxes that were so heavy the people could hardly buy enough food after paying them

Taxes were six times as much as they had ever been before. One sixth was sent back to Rome; five sixths the new governors kept for themselves. Do you see why so many men wanted to be governors of provinces?

If any person refused to pay the sum, the soldiers in the army were ordered to punish him. His lands were taken away and given to a Roman. The man himself, even if he had once been rich and important, was sold as a slave.

The people in Rome soon learned how easy it was to get rich in the provinces. Some of the worst men got offices. Rule by "the best" was quite forgotten.

So much wealth came in from all these places that it was no longer necessary to lay taxes on the Romans themselves. For several centuries they paid nothing. During this time they grew to feel that they *ought* not to pay anything.

Many years later the wealth from the provinces was all spent. Then it became necessary to get money somewhere else for the support of the State. By that time the Romans felt very angry when they were again asked to pay taxes. They were no longer the good citizens that they had once been. They had forgotten all about their *duties*. They thought only about what they could get from the State. Do you know of any such people today?

The leaders in the Senate who were still honest were greatly worried over what was going on in the provinces. How could they find out whether or not the governors were ruling well? The distances were great—hundreds or even thousands of miles. Of course, there were no telephones, airplanes, automobiles, or railroads by which news could be sent back to Rome. In many cases there were not even roads.

The Senate could do nothing. Their kind of government had worked well when Rome was only a small city-state. But it could not be stretched to cover the large area that had been conquered. The Republic had failed to solve its problems. Something else would have to be tried.

The Empire Brings Order

Things in Rome went from bad to worse. The soldiers thought that they should be given more of the wealth from the provinces than anybody else. For they were the ones who had done the fighting. The businessmen, however, had the money. They bought up the lands, the ships, and the storehouses that had been taken away from the people who had once owned them. They grew richer than ever.

So Romans were no longer fighting outsiders. The different classes of citizens were now fighting one another. Each thought about what was good for his own class—not what was good for Rome. None of them could keep order.

Many people began to believe that there was only one way to bring back order. That was for one strong man to make himself dictator. He would have to depend on the army to keep him in power. He would tell everyone else what should be done. Countries often do this when they grow discouraged.

Different leaders tried to do that very thing. One would succeed for a little while. He would kill all his enemies that he could lay hands on. Then a stronger leader would beat his army. The stronger man would kill the first leader and all his friends.

It was a terrible time. On all sides ruin and death faced the citizens.

Julius Caesar becomes the leader. While things were in this bad way, a young general saw his chance. His name was Julius Caesar. Julius Caesar had himself made governor of Gaul. It was at that time an unknown land to the Romans. Caesar would conquer Gaul and make it a peaceful province. Then everybody would think of him as a great leader. The citizens would be willing to follow him. He could bring back order to the State, and of course he would be the chief.

The plans of young Julius were carried out. He conquered the "three parts" into which "all Gaul" was divided. Some of you may one day read his own story of how he did it. He wrote the story in the Latin language. That is what the language of the Romans was called. Today many high-school students study "Caesar."

Caesar went on. He conquered the land as far east as the river Rhine; he also crossed over into Britain. He did other things besides making war. He began to spread the plants of Africa and Italy through the lands farther north. He showed the Gauls how to farm in Roman ways. And the Gauls taught him how to use soap in place of olive oil.

Caesar Building a Bridge across the Rhine

By that time all Rome was ringing with the praises of the young general. In the year 49 B.C. Caesar decided that his time had come. He marched his men across the river Rubicon and back into Italy.

Swiftly he struck down all the other leaders—even those who had once been his friends. No one was left to question him. Thus he brought order once more to Rome.

He turned to the provinces and brought them all under his rule. Egypt's beautiful queen, Cleopatra, pleased him so much that he stayed with her for almost a year. He went into Asia Minor and sent back this short message: "I came; I saw; I conquered."

The same thing happened in North Africa and in Spain. Then all the Roman world lay at Caesar's[1] feet. He was dictator for life. He gave Rome an honest and good government. But the old days of a republic with freedom for the citizens were gone; they never returned.

Augustus and the "good emperors"; the "Roman peace." Julius Caesar was killed before he could carry out all his plans. The man who followed him was called Augustus. He was given the title *Emperor*—a title which Julius Caesar had never used. It means "ruler over an empire."

Augustus went on with the good work of bringing back peace. Then for two hundred years this "Roman peace" lasted. That long period of time gave a chance for a new civilization to develop. In the next part of this book (pp. 288–297) you will find what the world was able to do then.

During that time some of the "good emperors" continued to spread Roman rule. The map on page 280 shows you

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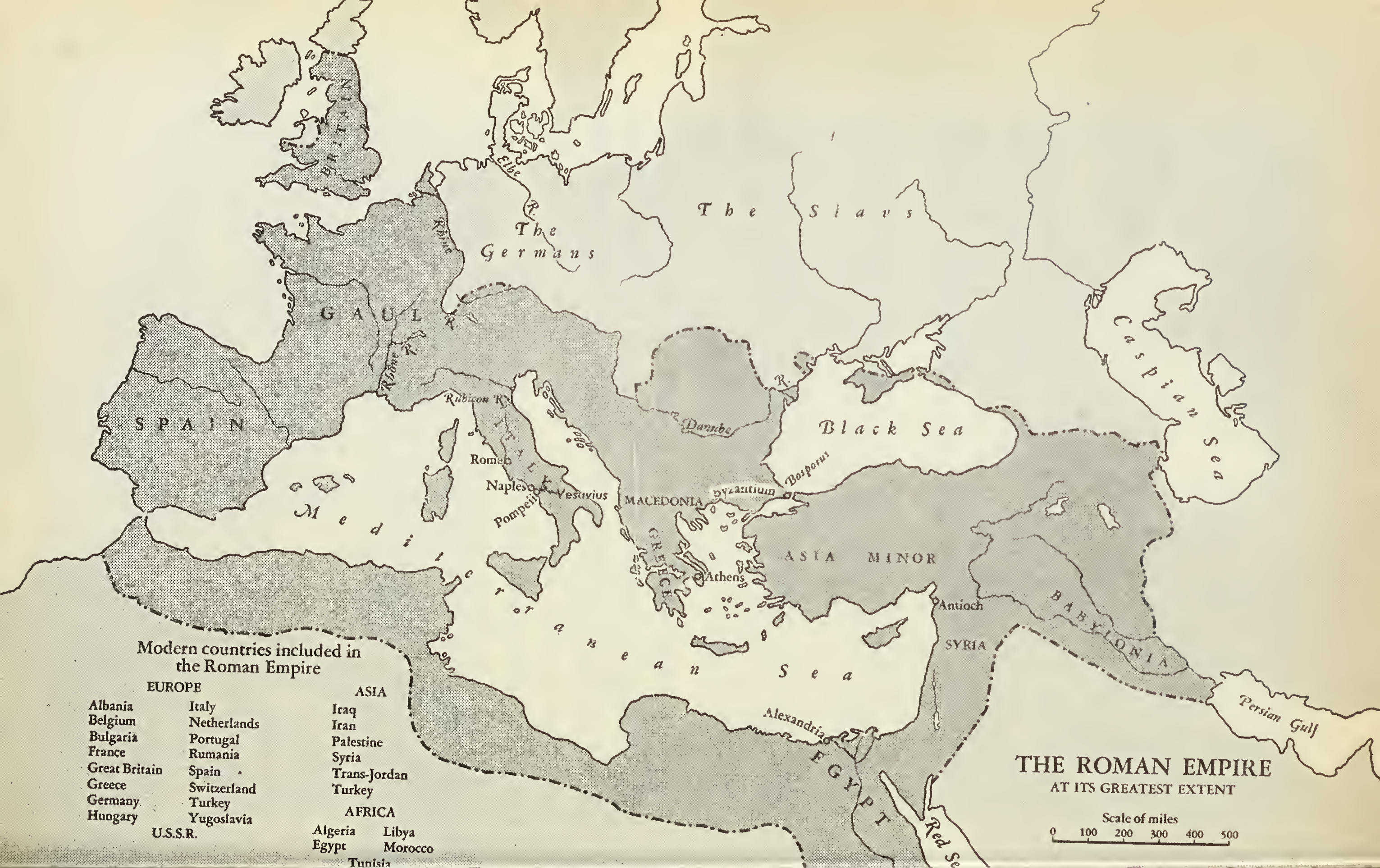
[1] The names "Kaiser" and "Tsar" that some later rulers have taken both come from the word "Caesar."



THE ROMAN EMPIRE
AT ITS GREATEST EXTENT

Modern countries included in the Roman Empire

EUROPE
Albania
Belgium
Bulgaria
France
Great Britain
Greece
Germany
Hungary
Italy
Netherlands
Portugal
Rumania
Spain
Switzerland
Turkey
Yugoslavia
U.S.S.R.

ASIA
Iraq
Iran
Palestine
Syria
Trans-Jordan
Turkey

AFRICA
Algeria
Egypt
Libya
Morocco
Tunisia

how far it went. The list of names shows you how many of our present-day countries or parts of countries it took in. (Notice, however, that it covered only about one third of Europe.) Through all that large area—from Britain to the Persian Gulf—a traveler might journey in safety.

Two new "blood strains" were brought into the Empire as the years went by. These were some of the Germans and the Slavs. These and all free men inside the Empire were made Roman citizens. Among them all were spread Greek ideas and arts and Roman notions of law and order. Both were great gifts; they helped to civilize the newer peoples.

Peace, justice, and order could be found in all this Roman world. The Roman people not only had learned the lesson of how to rule themselves; they taught it to others. (Do you think that you are learning to rule yourself?)

To Talk About

Is there a country called Rome today?

Can you find a physical map of Italy and one of Greece? How are they alike? how different?

Why are higher lands more likely to be healthful places in which to live than lowlands?

Do you think it is better for people to be serious and hard-working like the Romans or bright and good thinkers like the Greeks?

Was the Roman dictator like the dictators of today?

How do our young people today learn to be citizens? Do their parents teach them? Do you think American parents ought to be more strict?

Are there any countries today that are spreading their power over other lands?

Why did the Punic Wars begin in Sicily? (Study the map before you answer.)

What lesson can our country learn from Carthage's fall?

How can a man fail and yet be called glorious? Can you name any other men besides Hannibal of whom the same thing might be said?

Is it right for armies to rob the countries they conquer?

Is it a good thing for citizens to pay no taxes at all?

Have people in your town learned the lesson of *discipline*?

To Do

Find out what cities in the United States are as far north as Rome is.

Divide into committees. Each may choose one Roman god or goddess. The members will prepare stories about this god or goddess to tell to the rest of the class.

Choose your own wisest members to be your leaders. (Does this always mean the children who get the best marks?)

You might make some kind of badge for your officers (as the Romans used the purple stripe on the toga).

You might like to try to do some work for your own home as Hannibal tried to do something for his home. What could it be?

Can you find any mention of Roman officers in your Bible stories?

Make a list of your own duties as citizens in school.

Can you show the class a copy of Julius Caesar's book written in Latin? A high-school teacher might be able to help you.

Everyday life: the very rich. Rome was now a great city of more than a million people. The chief cities of the provinces were also very large. They had paved streets, police, and fire departments. Schools were kept up for the children of the upper classes.

How do we know all these things? We get part of our knowledge from stories left by the Latin writers. We get part of it from looking at the houses, furniture, streets, and public buildings themselves. Where are any such to be found? The story is an exciting one.

Near the city of Naples is a great volcano called Vesuvius. Many times during the years, great waves of ashes and hot melted rock, or *lava*, have burst forth from the volcano. They have rolled down the slopes, covering up everything in their path.

In our own times scientists have dug down into the lava and ashes. They have found two complete cities—Pompeii and Herculaneum. In these cities everything was found just as it had been on that terrible day so long ago when the cities were buried. The tables had been laid for dinner; the bread had been placed in the ovens to bake; the chariots had been racing down the streets. Even bodies of the people have been found, completely covered with ashes.

By studying all these things, scientists have been able to learn a great deal about daily life in the Roman Empire. Perhaps someday you may be able to visit those cities.

Let us first look at the homes of the rich. A few of the people were very rich indeed. They had town houses and country houses, of stone and marble, set in beautiful gardens. The floors were of mosaic in colors and gold. The gardens were full of Greek statues. Broad flights of stone steps led down to the seashore.

The furniture was inlaid with ivory and mother-of-pearl. Cups, bowls, and plates were of silver in repoussé designs. Clothing was no longer of wool alone; both wool and silk were now used. Caravans traveled in never-ending lines from the Far East to bring the silks and the jewels that were so much liked. Even the shoes of the donkeys which carried a rich man's bags and boxes were sometimes made of silver.

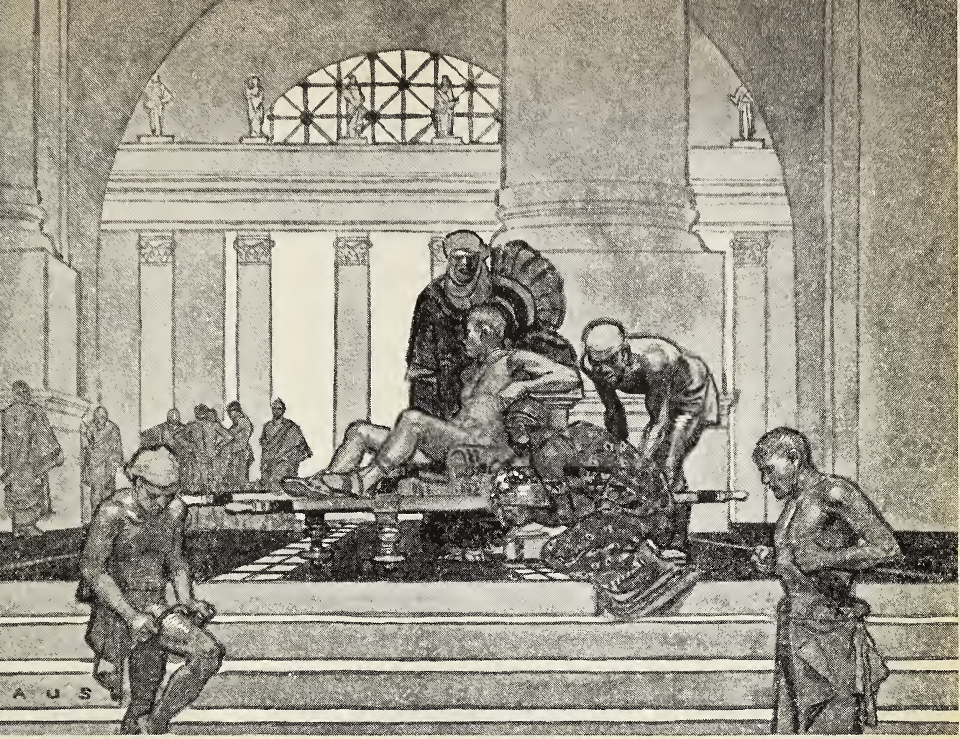
Men as well as women were loaded down with ornaments. Their rich food came from all over the Empire, such as salted fish from the Black Sea at seventy-five dollars the jar. Rice and sugar from the Far East were becoming known.

But family life had grown worse. Divorce was easy. People spent little time at home. A rich man spent most of his morning paying calls, or standing about in the emperor's court. Every afternoon he went to the public baths. There he could have a hot, medium, cold, or steam bath. After his body had been oiled and perfumed, he sat and talked with his friends.

Rich women no longer wanted to bother with bringing up children. They spent hours, with the help of their slaves, in making themselves beautiful; they even wore false hair. Then they were carried in handsome chairs to see the sights.

All the upper classes liked to attend the races in a place called the *circus*. Four-horse chariots raced seven times around the track there. Often the chariots crashed into one another, and men and horses would be killed. Such things were terrible to see; but the Romans were used to the sight of blood. They did not mind it.

Ordinary athletics were too slow for them. They liked



Rich Men at the Baths of Caracalla. They Could Have Hot, Cold, or Steam Baths

to watch fights to the death between gangs of slaves, or between trained men and wild beasts. Men who were trained for such dangerous work were called *gladiators*. They fought in a building that looked like two Greek theaters put together. This was the *amphitheater*. The Romans called such terrible scenes "games." In one set of games 1000 gladiators fought 32 elephants, 10 tigers, 60 lions, 40 wild horses, and 87 other wild animals.

Do you wonder that the rich citizens were of little use to their city? You must remember, too, that they were no longer willing even to pay their share of the taxes.

Everyday life: the working class. The number of people who made up the working class was not very large. There were merchants, small shopkeepers, and artisans; many of these were freed slaves. There were also the people who worked for the government: soldiers, policemen, firemen, clerks, and those who took care of the public parks, the water supply, and the paved streets.

Below these were the porters whose donkeys and carts brought the supplies from the seacoast to the city. These carts could be heard all night, bumping over the stone roads. The sailors who managed the ships on the Mediterranean also belonged to this class.

Such people lived in small houses like those of the older Greeks. The rooms that opened onto the street were used as shops; the family lived at the back of the house.

Gladiatorial Games in Rome

Everyday life: the very poor. Very few men were left who owned small farms. The rich men had bought up the best land. They worked it with slaves. Cheap grain could also be brought from the provinces in Sicily and Africa. It no longer paid a common man to try to raise wheat.

So the farmers and all others who could not find work wandered into the city. There they lived in a single room, in buildings as much as seven stories high. The women of these families had to carry all the water that was needed from the public fountain. Since these people could get no work to do, they were "on relief." The government had to support them.

As the years went by, many of the very poor no longer wanted to work. It was easier to take the help that was given. All they cared about was "free bread and games." How different this was from the serious, hard-working life in the days of the Roman Republic! The very poor were now of little use to the State.

Everyday life: the slaves. Everywhere there were slaves. One man alone had forty thousand. Most of them were people who had been taken in war.

Their life was very sad. They were marked with a hot iron, so that they would be known at once if they tried to escape. They were made to work from sunrise till dark. Their clothing was one coarse garment; they were given just enough food to keep them alive. They could have no real homes, and their families could be broken up.

Rich landowners used gangs of such poor people to work the broad lands that they had won in the provinces. Other such gangs had to row the trading boats, or *galleys*. These galley slaves were chained to their benches. If the ship went down, they sank with it.

Galley Slaves at the Oars. They Were Chained to Their Benches

Of course, people who were so badly treated had no interest in the State. They would not fight to protect it unless they were forced to do so. They would welcome with open arms any enemy who could conquer Rome. No change could bring them anything worse, and it might bring them something better. A large slave class is always a danger to any state. The Romans lived in fear that the slaves might rise against them.

Business and trade in the Roman world. During the two hundred years of the "Roman peace" trade increased greatly. There were no pirates and few robbers. Travel on the Mediterranean was so safe that the Romans called that body of water "Our Sea."

Their sailing ships set out regularly in all directions. The voyage from Rome to Athens took one week; to Alexandria, ten days. The largest of the ships could carry several thousand tons of goods. They used both sails and oars. Such vessels carried away glass and metalwork, olive oil, and wine. They brought back grain, ivory, carpets, Chinese silk, pepper, pearls, and perfume.

By land there was even more commerce than by sea. Over the fifty thousand miles of Roman roads poured a steady stream of traders and travelers: heavy coaches carrying rich men's families to their country places, traders' donkeys loaded with heavy packs, soldiers marching to the camps, carts heaped with grain from the provinces, riders on horseback, ladies in their carrying chairs.

Along these roads the Romans began the custom of setting up mileposts. The mileposts measured the distance from the city of Rome.

Where the roads ended, caravan trains took up the work of transportation. One caravan route led all the way from Antioch, near the eastern end of the Mediterranean, to China.

So much trade was carried on that the old bronze bars were no longer good enough to be used as money. Silver coins were used, as in the East. One side of a coin was usually marked with the head of the emperor.

The Romans as builders. Since they were an orderly people, the Romans liked to arrange their cities in an orderly way. From the Near East they learned city-planning. So most of their cities were arranged around an open place, the Forum. At first this was used as the market place; later it became the center of all the government business. Law courts, temples, and meeting halls lined the sides of this square. In every town these were the finest buildings.

The Romans were not satisfied, as the Greeks were, with a building of only medium size. They liked things to be huge and powerful. And after the wars the State was rich enough to pay for such things.

They used the column-and-lintel plan of the Egyptians and the arch of the Babylonian cities. They decorated the capitals of their columns as the Greeks did. But they had good ideas of their own, too. In fact, they became the greatest builders among all the nations. Even today, far out on the desert sands of Africa, can be seen great ruins of what were once Roman cities. Nobody lives in those places now.

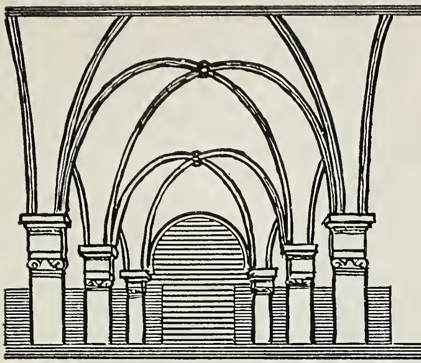
The Romans were the first people who learned how to use concrete. They not only made walls of it but used it to hold bricks and stones together. For their buildings were too huge to be made of solid stone; they were more likely to be made of brick and concrete, with stone only on the outside (a "facing" of stone). They were also the first people to use panes of glass in their windows.

How could the roof be held up over such huge buildings? Earlier peoples had been able to solve the problem of the roof only by putting rows of columns inside the rooms. The Romans did not like to see so many columns inside. They wanted more open space.

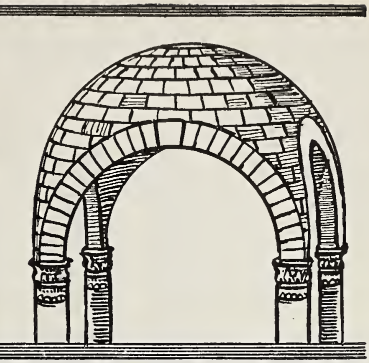
Men who plan the great tasks of building are called *engineers* and *architects*. The Roman engineers solved the problem of how to hold up the roof over even the largest of buildings. They used something that looked a little like the ribs of a person's body. These ribs were part of a *vault*; they carried the weight of the stones in between them. You can see them in the picture on page 291. Are there such vaults in any large buildings in your city?

Another plan that the Romans had for building was the use of the *dome*. It is the rounded top that you see in the same picture. Its weight is carried on the side walls or on the columns. So the large room beneath can be quite free from columns. Such a room gives a feeling of space and freedom. Is there a dome on any building in your city?

In the cool days of winter the Romans found a way to keep warm. Their engineers thought out a way to heat the



A Vaulted Roof



A Dome

large public buildings. In the walls and under the floors they put long, hollow pipes. Through these pipes hot air was sent.

Some of the largest of the buildings were the baths, the amphitheaters (especially the one called the Colosseum), and the circuses. The last two, however, had no roofs.

Emperors and generals also liked to build handsome arches to celebrate their success in war. Sometimes they built tall columns instead, with scenes of their battles carved all the way round to the top.

Rome had such great strong buildings that people believed they would last forever. They called Rome "the Eternal City." And, indeed, many Roman buildings are still standing today—in Italy, in France, in Spain, in Africa, and scattered about over the Near East.

Bridges also were put up, over all the large rivers in the Empire. People of today still enjoy the fine line of their round arches. Somewhat the same in looks were the long lines of *aqueducts*, which brought clear, fresh water to the cities. The water flowed through a sort of trough at the top. Not for more than fifteen hundred years afterward were any cities in the world to have as good a water supply.

Roberts

An Old Roman Aqueduct. This Serves as Both a Bridge and an Aqueduct

Not the least interesting of the engineering works were the fifty thousand miles of Roman roads; for "all roads led to Rome." Many of them were built by the army. First the place where the road was to be made was dug out.

Small stones and gravel were then pounded down hard into the earth. Concrete was poured over these in order to make a firm roadbed. And then huge blocks of stone were laid down over the concrete, to form the top.

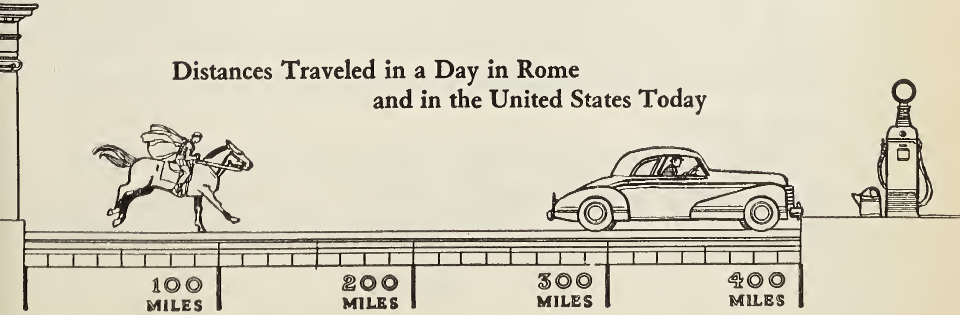
Over such good roads flowed the commerce of the Empire. By using relays of horses, a messenger could travel as much as seventy-five to one hundred miles a day. Never afterward until steam came into use could as good time be made in traveling. (Have you ever played relay games? If so, you can tell what relays of horses are.)

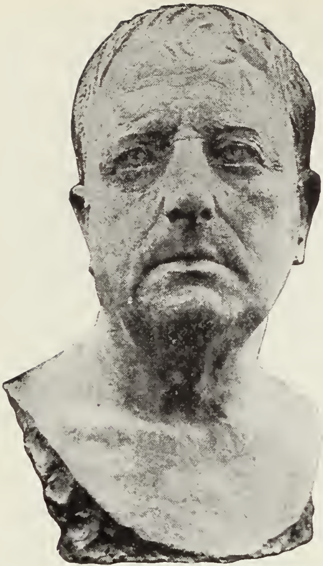
Many proud cities grew up where two Roman roads crossed. And many modern railways now follow the routes that those old roads marked out.

Roman science was as useful as their building and engineering. Romans had little interest in learning just in order to *know*. But they were much interested in knowledge that could be put to work. For example, Julius Caesar gave much study to the calendar. By his time it was not working well; so he added an extra day on every fourth year—our "leap year." And today the name of every one of our months is from a Latin name.

The Roman figures (I, II, III, and so on) were better than the Greek but not as good as the Arabic. As you would expect, the practical Romans were good at arithmetic. (Do you ever use the Roman numerals?)

Distances Traveled in a Day in Rome
and in the United States Today





Museum of Fine Arts, Boston

Bust of a Roman. Notice How Much This Looks Like a Real Person

The Romans as artists. Most Roman art was borrowed from the Greeks. But a few things were done differently from the Greek ways. In sculpture the Romans liked to make a statue look like a real person. Their *busts* (see the picture) looked like the men themselves. Many artists today have the same idea.

Neither did they like to look at long, bare surfaces. So they began to use vines, leaves, and fruit just as decoration on their chests, benches, tables, and even on their walls. Our artists often do the same thing today.

In music you can perhaps tell what the Romans would like. They liked military music. Every army had men with trumpets to play stirring tunes while the soldiers were going forth to battle. Our armies and navies today still have their bands. Have you ever heard them over the radio?

Roman authors in general did not do as good writing as the Greeks. But they were very fine speech-makers. A man who can excite large crowds by his speeches is an *orator*. Cicero was the best of the Roman orators. Some of you will probably read his Latin speeches when you are in high school.

You already know that Julius Caesar wrote history. Many other Romans wrote history, too. They were very eager that people who lived in later times should know about their great deeds. Many of the facts told in the book that you are now reading came from Roman history books.

The Latin language was spoken or understood by people all over the Empire. For more than fifteen hundred years all the educated men of Europe studied Latin. Perhaps your parents or your grandparents studied it, too. It is still used in the services of the Roman Catholic Church.

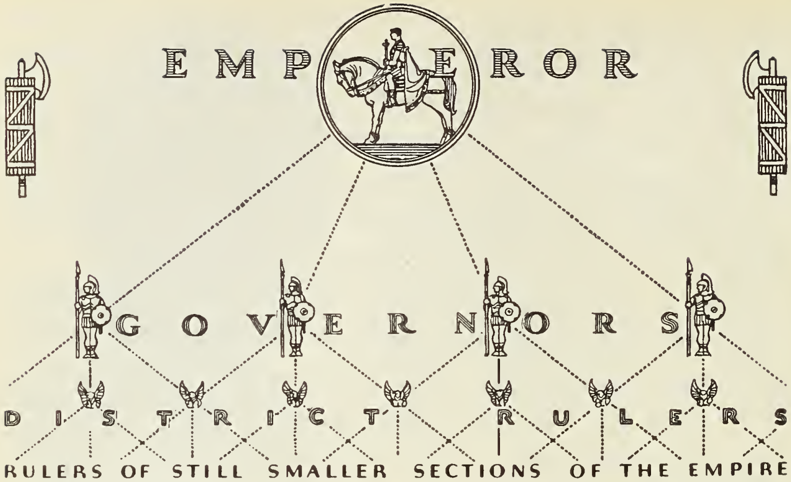
Some of the many languages spoken in the world today are made up very largely of old Latin words; for example, the Italian, the Spanish, the French, and the Portuguese. More than half the words in our own English language came from the Latin. You use many of them in your everyday speech.

Roman government and law a great gift to the world. Under the Roman Empire the emperor himself was the head of the government. He chose all the chief officers; he chose the governors of all the provinces. Of course, the "good emperors" tried to find men who would rule well.

Each governor had to go out to live in the chief city of his province. He divided the province up into districts. Then he chose a man to be at the head of each district. That man had to go out to live in the chief city of his part of the country, and he chose others to help him.

In this orderly way officers were chosen for every part of the Empire, no matter how far away it might be. Every such officer had to count the number of people in his section. He also had to send in regular reports about what he was doing. In this way the higher officials could learn how their helpers were ruling.

Ever since, this plan of government has been followed by many countries. It is also the plan that is used in the Roman Catholic Church today.



Plan of Government of the Roman Empire

Another gift that the Romans gave to the world was their idea about law. Of course, there had always been laws of one kind or another. In Unit One you learned that *custom* was law among primitive people. In Egypt, Babylonia, and Persia whatever the king said was law; everybody had to obey it. The Greeks came together and decided for themselves what their rules should be. Sometimes they obeyed their own laws well, and sometimes they did not.

The Romans thought long and hard about the question What should the law be? At last they decided that the first thing to do was to find out what would be fair to the most people. After they had decided that, they made it into law. The *law must be just, fair, right, and reasonable.* In fact, the same word was used in the Latin language for what was *lawful* and what was *right*. Do you see how different that idea is from the older plan, by which the king made any law that he wanted to?

The Romans were also very particular about *obeying* the laws that were made in that manner. No citizen thought that it was funny or smart to break the law. No, indeed; he felt that it was his duty to keep it.

Our ideas about law today have taken much from these Roman ideas.

In time there were so many laws that no one could keep track of them all. By the year 549 after the birth of Christ the Romans had to make a *code*, as the Babylonians had done. This one was made by the emperor Justinian; so it is called the *Justinian Code.* Much of the law in Europe and South America today is based on this Roman code.

"By natural law, all men are born free." That sounds like a good American saying, does it not? But it was first said by a wise man in old Rome.

The Rise of Christianity

During the time of Augustus Caesar, while all this wonderful building was going on, something else had happened far out in a Roman province. Few people knew about it; and those who did know about it, thought it was not important. But it was to have more effect on world history than even the mighty Roman Empire itself.

This event was the birth of a child to a Jewish family in Roman Syria. He was given the name Jesus. Today the whole modern world considers the birth of that child so important that time is now counted from it. B.C. means "before Christ." A.D., two Latin words, "anno Domini," that mean "in the year of our Lord" or "after the birth of Christ," shows time since the birth of Christ.

Jesus grew up, learned the trade of carpenter, and then began to teach and preach. The Jews were puzzled as to

A Meeting of Early Christians. Where Do

what they should think about this new leader. Some of them complained against him. He was tried by the Roman officers and was crucified.

But his followers believed that he would rise from the dead. They believed that he would come again to judge all men. He would set up a heavenly kingdom in the life beyond the grave.

These followers were at first to be found only among the Jews. But as time went on, Christ's teachings spread among many other people also. Some of those teachings were new and strange—such as that man was to find heaven through love of God and of his neighbor.

After his death the story of Jesus' life was written down. Four main accounts were written: by Mark, Matthew, Luke, and John. These accounts, together with the writings of later men like Paul, were gathered together into a collection. Today we call it the New Testament. It brought forward three chief ideas: faith, hope, and love.

The people who tried to follow these teachings were lonely after the Great Teacher had left them. They used to come together to talk about him, and about what he had told them they should do. The one who had known him best became leader of the group.

That is the way in which the Christian Church began.

You Suppose This Meeting Was Held? (See page 300.)

Slowly the groups grew larger. New churches were started in other cities. If there were several such groups in a single city, they chose one of the leaders to be the *bishop* over them all. The bishops in the largest cities became *archbishops*. Since Rome was the most important city of all, its leader had a special position. Later he was given the title of *Pope*.

The new religion spread rapidly through the Roman Empire. There were good roads everywhere; travel was safe. The Greek and Latin languages were known in all parts of the Empire, so that it was possible for people to talk together. For many years the Roman government paid little attention to the new ideas. People might believe whatever they chose.

From what you read on pages 287–288 you can perhaps guess which class of people received the new religion most gladly. In it the slaves and the poor, for the first time, found some hope, something to look forward to: "Come unto me, all ye that labor and are heavy laden, and I will give you rest." Each man was believed to be a *person*, with a soul that had value in God's sight. He was not just a *thing*, to be ordered about by any ruler. There was even a place for women.

As more and more people became Christians the Roman government began to feel some fear. It ordered everyone to bow down before the statue of the emperor; for the emperor stood for the State. The Christians would not do it. (Neither would the Jews.)

So some of the emperors treated the Christians very cruelly. Men, women, and children were burned at the stake or were thrown to wild beasts in the "games." Many were crucified. Some fled into the forests. Others hid in underground passages called the catacombs.

In spite of such cruel punishment, Christianity went on spreading. Nothing could stop it. The upper classes, as well as the lower, at last began to follow it. So many joined that the punishments had to stop. After several centuries Christianity was made *one* of the religions of the Empire. Then it became *the* state religion. The emperor himself joined the Church. The religion of the lowly carpenter had won over the proud empire of Rome.

The Empire Falling to Pieces

Disorder takes the place of order. After the glorious years of the "Roman peace," things did not go so well in the Empire. You have already looked at the life of the very rich and the very poor. Neither of them was of much use to the State.

It grew always harder to get the right kind of men for the armies. The captains had to go out into the provinces to find soldiers. And many of these were from the wild lands outside the Empire.

The people who lived in those wild lands were called *barbarians*. They still followed primitive ways. But they were strong and were good fighters; so the officers were glad to take them. In fact, the army could hardly be called "Roman" any more.

You remember the chief reason why the emperor could keep his power. It was because he could always call on the army to carry out his orders. The army soon came to see that fact. It saw that the emperor could do nothing by himself alone. So, if it could support an emperor, why could it not *make* an emperor?

Then, for many sad years, the army leaders set up one emperor after another. There were eighty of them within ninety years. And there was much fighting among the military leaders themselves. Such things always happen in a country when the army decides to rule. Soldiers never rule as well as ordinary citizens.

Once in a while there would be a good emperor. He would try to bring back order, as in the old days. But the good old days were gone, because the Romans themselves were no longer good citizens. They had lost their interest in their state. They wanted only to live in easy ways.

During these years of fighting, little trade could be carried on. Not enough food could be brought in from the provinces to feed the people in the cities. "Hard times" set in; and they lasted as long as the "Roman peace" had.

By this time the soil in Italy was worn out. Fertilizer was not used, and the crops grew less and less every year.

How could the government be supported during these years of "hard times"? You already know that the citizens were not willing to pay taxes. Many were out of work and could not have paid even if they had been willing. The load fell more and more heavily on the provinces. And the provinces could not pay so much.

Therefore, one by one, the things done by the government had to be given up. The streets were not cleaned nor repaired. Bad places in the roads were not mended. Parts of the aqueducts fell down. The water flowed out into the fields; there it stood, and made swamps. Diseases broke out. There was not enough water left for the cities. Since the police and the firemen were not paid, they no longer worked.

As fewer and fewer people had steady jobs, they could buy less. Shops had to close. Ships were tied up at the docks; as the years passed, they rotted away. Not so many men could make a living by helping to load and unload ships. The whole Roman world seemed to be running down.

During these years the Empire split into two parts. Rome was still the capital of the western part. The old Greek city of Byzantium was the capital of the eastern part. It was given the new name of Constantinople. There were now two emperors—one in each part. The Roman world was no longer a single unit.

You sometimes hear people speak of the "fall of Rome" in the year 476 A.D. In fact, the Empire had fallen to pieces long before that; it had decayed from within.

What people will take the place of the Romans? The Romans were no longer strong enough to keep the lands they had taken away from others. Some of those lands were the fairest in all Europe. They had sunny skies, delightful warm winds, a calm blue sea, and plenty of rain. They had beautiful flowers and trees. Some younger and more active people from the colder and darker north would certainly want to live in such lovely spots.

The tribes who pushed their way into the Roman world were the barbarians. They belonged to a group of Indo-Europeans called the *Germans*, or *Teutons*. Their members who had entered the Roman army sent back word to the rest about the sunny lands farther south. The news was welcomed; for the Teutons' homelands were badly overcrowded. It was hard to make a living there.

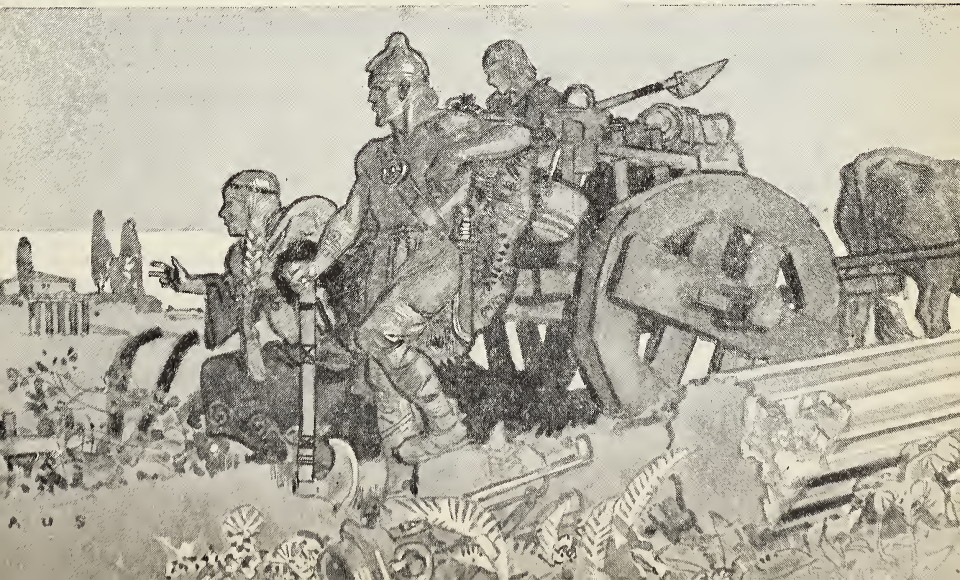
A few at a time, barbarian families began moving into the Empire. They settled down on the farm lands that the Romans had given up. Some of them married Roman women. All began to learn the ways of civilization.

As time went on, this little trickle of newcomers grew and grew. It was no longer a trickle; it was a great wave.

When it was already too late, the Romans tried to do something to keep the barbarians back. The emperor of the East was able to save part of his empire. But the West was helpless. Tribe after tribe swept down into the Western Empire during the fifth century A.D.

They came under different names. One tribe (the Visigoths) took Spain as their own. Another (the Vandals) settled down in northern Africa. A third (the Burgundians) took southeastern Gaul. The Franks got the rest of France and what we now call the Netherlands and Belgium. The Angles and Saxons went to Britain. The Ostrogoths took part of Italy; the Lombards took the rest of it. The Alemanni took Switzerland.

A German Family Settles on a Farm That the Romans Have Given Up



At the same time that these Teutonic tribes of Indo-Europeans were settling in western Europe, other Indo-European tribes were settling farther east. These were the Slavs, who entered the Balkan Peninsula and Greece.

You need not try to remember all these names. You need remember only that Teutonic tribes settled in the western part of Europe, and Slavic tribes in the east.

So there began to grow up many new kingdoms, instead of one single empire. The whole map changed. A long period of time followed, during which the Romans and the barbarians were learning to live together.

That makes a good place to draw a dividing line in history. So we call everything that had taken place up to then "ancient history." What was to come afterward we call "medieval history" or the history of the "Middle Ages." You will read about that period of time in Unit Four.

The Byzantine Empire Lives On

One part of the Roman world was able to hold its own. This was the Roman Empire in the East, or the Byzantine Empire. It had always been much more Greek than Roman in its ways of living. It lasted a thousand years after the "fall of Rome."

The city of Byzantium, later called Constantinople, had a much better location than the city of Rome. It was on a hilly peninsula looking over a narrow *strait*, the Bosporus. This was a good place to protect; even in modern times armies have found it almost impossible to capture.

For a thousand years after the Western Empire came to an end, the Eastern Empire was the most civilized of all the Christian states. It had a strong navy on the Black Sea. It could get all the grain that it needed from the rich soil along that sea and from Egypt. It knew how to carry on business and trade. Those lessons had come down to it in a straight line from Babylonia and ancient Greece. It carried on commerce with lands as far away as India and China. Much of this trade was carried on by the Jews who lived in the Eastern Empire.

The story goes that two Byzantine men brought some silkworm eggs all the way from China, hidden in their hollow walking sticks. For it was against Chinese law to take silkworm eggs out of the country. Whether the story is true or not, it is certain that the Byzantine Empire began to produce silk.

What we owe to the Byzantine Empire. It is fortunate for us that the Eastern Empire lived on. All the West was disturbed for a thousand years; it had no time for art, for science, or even for the simplest education. The world would have forgotten most of the civilized ways that had been worked out by the Egyptians, the Babylonians, the Persians, the Greeks, and the Romans. But the Eastern Empire kept all these things alive. It was an Eastern emperor, Justinian, who collected the great code of laws about which you read on page 297.

These lessons in civilization the Byzantines taught to the Arabs and the Turks. The Arabs, in turn, taught them to the Western world. You will read about that later.

The Eastern Empire also taught the Russians for the first time. That is one reason why Russia today is so much more like the rest of eastern Europe than it is like western Europe.

The Byzantines, however, did much more than to keep the old civilization alive. They made great progress of their own, especially in the arts.

The Byzantines Teaching the Russians

They had learned from the Jews not to like the use of statues in religion. Therefore they had little sculpture in the round. Reliefs, however, were used often in designs of flowers and leaves and scrolls.

In painting, Byzantine artists were especially interested in painting grave, serious, yet sweet faces. In their pictures the bodies showed very little; they were covered with long folds of stiff, rich cloth. The artists did not try to make a painting look exactly like a person. They were more interested in representing religious *ideas*, such as faith or hope.

The colors they liked were very deep and rich. Gold was used freely.

Many such paintings in colors and gold decorated the leaves of books. Since enough papyrus had been hard to get, the Romans had used a sheepskin called *parchment* to write on. It was very tough and would wear well. The Byzantines cut parchment into small pieces and tied those pieces together. Thus our use of books began. Covers of leather were added to protect the books.

The metalworkers of Byzantium learned an old art from the Far East. They would take a metal piece, such as a vase, bowl, or cup. On it they would outline a design by means of narrow gold strips. These were fastened (soldered) to the metal. The spaces in between the strips were then filled with melted enamel. The whole was then heated until the parts ran into one another. This kind of work we call "cloisonné." It is one of the most delicate and beautiful of the minor arts. China had used it for centuries.

Can you find a piece of cloisonné in your stores or homes or in a museum?

The Byzantines were great architects too. During the centuries of disorder in the West the people there forgot how to erect great buildings. When they wanted to build a church, they had to send to Constantinople for workmen. Of course, these workmen brought their Byzantine ways and their Byzantine arts with them to the West. They were especially fond of mosaics. You can see their mosaics in many old churches in Italy today.

The most beautiful of all the Byzantine buildings was the famous church of Santa Sophia in Constantinople. Justinian and his wife Theodora built it; it cost about seventy million dollars. It has one great central dome, and half domes at the sides. So the building is full of light and has great open spaces.

Only the richest materials were used in building it: marble in green, rose, white, and black, with acres of gold mosaics. The dishes used were all in gold, and the dresses of the priests sparkled with gold. When the full rays of the sun beat into the building, men could hardly bear to look because of the shining splendor.

At the end of the thousand years the Turks conquered the Eastern Empire. They used Santa Sophia as one of their own churches (mosques), and they painted over some of the pictures and mosaics. But today the Turkish government is allowing artists from the West to make the building look as it used to.

The most direct gift that our world of today has received from the Byzantine Empire is our music. There, for the first time, music was considered as important as the other arts. In fact, it became the leading art of the Christian world during the early part of the Middle Ages.

Melody, or tune, was important in the Byzantine songs (chants). It rose to a central point and then went down again; the *accent* was strong. (What does that mean in music?)

Usually the men sang one line, and the women and children answered them an octave higher. This kind of "plain song" became an important part of the Catholic religious service called the Mass.

By the eighth century A.D. written signs were placed above the words to stand for the music. This was the beginning of musical notes.

It was hard to read such notes. So a red line was drawn above the words to measure by. Later a second line was added in yellow. Then that plan was done away with, and in its place the five lines of the staff came into use.

With the staff, music had a framework on which to build; it was able to make progress speedily after that.

To Talk About

What happens when a volcano bursts out?

Compare the amusements of the Romans with those of the Greeks.

Do you think the government ought to give relief to the people who are out of a job? Do you think the poor people ought to do any work in return for this help?

Do you think it was a good thing for a man to have many slaves?

Was it only the rich who were bad citizens?

How many different kinds of engineers can you mention?

Are there "public" baths today? Why are they not needed as much as in ancient Rome?

Can you explain how water could be brought to the city in an aqueduct? Why were some of them so high above the ground?

Have you seen how roads are made today?

Why would the crossing of two roads be a good place for a city?

Do present-day Romans speak Latin?

Are there any orators in your community?

Do you think our citizens today are careful to obey the laws?

Do farmers fertilize their fields today?

Were your own grandfathers or great-grandfathers Romans, Greeks, Teutons, Slavs, or some other group?

Do all people today measure time from the birth of Christ (for example Mohammedans, Chinese, Japanese)?

Why should every citizen pay a tax, even if it is a small one?

Find from a map the present-day name given to Constantinople.

Are you ready now to answer the question that is asked in the title of this unit, on page 219?

To Do

If possible, take a trip to a museum to see the part showing Roman life.

Can you find in an upper-grade geography book a map showing trade routes on the Mediterranean today?

Where do the law courts have their home in your community? Take a trip to see a court while it is sitting.

Take a trip to see concrete mixed and poured.

Make a picture collection showing vaulted roofs and domes. Go to see any that are in your community.

Would you like to make a model of a Roman road, in a box of earth?

Look in a large dictionary to find the Roman words from which come our names for the months. Write the list on the board.

Show a copy of the New Testament, with the different accounts of the life of Christ.

Perhaps the librarian could help you find an early parchment book to show the class. If you cannot find such a book, you may be able to find a picture of one in an encyclopedia.

You may be able to find a phonograph record of an early church "plain song."

UNIT FOUR

A SINGLE WAY OF LIFE THROUGHOUT ALL WESTERN EUROPE

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The Church Takes the Lead

Europe for Christ or for Mohammed?

A New Way to Keep Order

Population in the Middle Ages

Towns Begin to Grow Up Once More

New Languages in Europe

Education in the Middle Ages

Business in the Middle Ages

Improvements in Ways of Doing Work

East and West Clash Again

Who Were the First Americans?

Market Day in a Medieval Town. Why Did the People Have to Buy So Much at a Time? (See page 362)

The Church Takes the Lead

What was happening in western Europe during the thousand years of the Byzantine Empire? You have seen the barbarians crowding in everywhere. In all parts of western Europe they set up their kingdoms. But these kingdoms came and went; few of them lasted.

You have also seen the old ways of life breaking down—business and trade, farming—even the roads, the aqueducts, the very buildings themselves. It was hard to earn the poorest kind of living any longer.

The government could give no help, for the government too had broken down. There was no longer an emperor in the West. There were no governors in the provinces. The barbarian leaders did not know how to manage business for large groups of people. The world at that time looked so sad that the period from about 400 to about 1000 A.D. has been called the Dark Ages.

The Christian Church, however, had not been destroyed; it was still strong. Since no other power was able to take the lead in this new and strange world, the Church took up the work. It began to teach the barbarians.

They tried hard to learn. Some of them even learned the Latin language. Many married Romans. Slowly they began to take on the ways of civilization.

How to Find Peace in a Troubled World

How could a person find peace for his soul in such a troubled world? How could he keep himself free from the ideas and bad habits of the barbarians?

Some religious men decided to go off by themselves to an out-of-the-way place. So they went deep into the woods, cut down the trees, and cleared land. They put up a group of buildings called a *monastery.* The people themselves were known as *monks.*

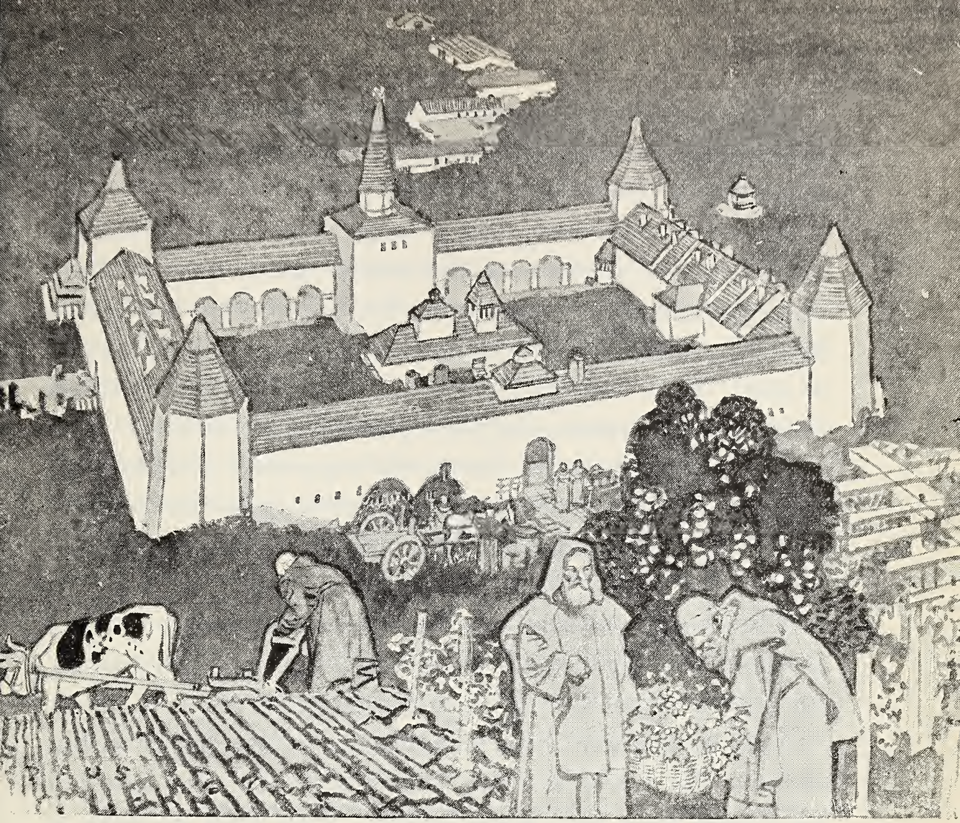
These monks became very good farmers. They used fertilizer. Their crops were the best in all the country for miles around. They were not afraid of work. So, for the first time since the days of primitive man, work with the hands again was respected.

The buildings in a monastery were usually arranged around an open courtyard. On the inside a covered walk ran around the sides; it was called the *cloister.* The monks could walk there when it was raining. The largest and finest of the buildings was the church. Others were the kitchens, the dining-rooms, the tiny bare sleeping-rooms, or cells, the carpenter shop, the blacksmith shop, the bakeshop, and the storerooms. The monks had remembered some of the old Roman lessons about building. They taught these lessons to their neighbors too.

Outside the main buildings of the monastery were the gardens and orchards, the fields and the meadows. Scattered about were barns and the pens for the sheep; for the monks learned how to raise cattle as well as to grow crops. There might even be a pond and a mill on the land they had cleared.

All this property, however, belonged to the group as a whole. No monk by himself could own any of it. When a man entered the group, he promised to remain poor, to live a good life, and to obey the leaders. He was never to marry. The person chosen to be the leader of such a group was called an abbot.

All day long the monks spent their time working and praying. They also set aside regular periods for silent thought.



A Monastery. What Kind of Work Was Done in Each Part Shown?

The Services Given by the Monasteries

The wealth owned by the monasteries was used not only for the Church but also for the community round about. It was used for the good of many.

After the Roman Empire came to an end, there were no such things as hotels. So the monasteries kept guest rooms for strangers and travelers. And, since there were no hospitals, the monks took care of the sick. They also gave help to the poor. Such respect for all living things was something the world had not seen since the great days of Buddhist India.

Not only did the monks teach the best ways of building, of farming, and of cattle-raising, but they did much for education in other ways.

In every monastery was a large, bare room called the writing-room. Certain of the monks spent most of their days there, making copies of books. These were written by hand on parchment by means of a sharpened goose feather or reed. Since they were written by hand, they were called *manuscripts* (*manu* = by hand; *script* = written).

If it had not been for the careful copy work of these men, many of the old writings of the Greeks and the Romans would have been lost forever. The world today would never have had a chance to learn from them.

The monks also kept a school for boys who were to enter the service of the Church. Not many other pupils attended, for most persons had no wish to read or write.

Some people say that a man must be a coward if he wishes to leave the world in order to save his soul. But many of the monks were very brave indeed. They took up some of the most dangerous work in teaching the barbarians. Many of them traveled to unknown lands. We call such people *missionaries*. Some met great suffering or even death.

A Monk Copying a Manuscript. What Does He Use for a Pen? for Paper?

Saint Augustine was the missionary to the people of Britain. Saint Patrick did the same work for Ireland. Saint Boniface had the most dangerous work of all in teaching the Germans.

Each large group of monks was called an *order*. Some orders about which you will often read are the Benedictines, the Franciscans, and the Dominicans. A later order was called the Jesuits.

Women too formed religious groups much like those of the monks. These women were called *nuns*, and their homes were called *convents*. Today there are many monasteries and convents scattered all over the world.

Europe for Christ or for Mohammed?

In Unit Two you learned about three great world religions whose members are to be found today in almost every land. They are Brahmanism, Buddhism, and Judaism. In Unit Three you read about a fourth—Christianity.

There is still one more world religion about which you should know if you are to understand the world of today. Its followers live in most of northern Africa and western Asia, and there are seventy million of them in India.[1] These people are called Moslems or Mohammedans. They are followers of a teacher called Mohammed.

Many times during the centuries the Mohammedans and the Christians have met in battle. They have fought with one another to get many lands. Today members of all faiths are trying to work together in the United Nations.

Wonderful Progress in a Single Century

Mohammed was born in the seventh century A.D., in the desert country of Arabia. Arabia was a backward land, inhabited by tribes of wandering shepherds. Its most important city was Mecca. *Pilgrims* visited this holy city every year. They came to see a shelter called the Kaaba, which was built over a holy black stone. Abraham was supposed to have built this shelter.

Mohammed was a poor man. He drove camels for his living. During his journeys over many years he met people of many religions. He was troubled because there were so many.

As he grew older he began to have some dreams or visions. Then he felt sure God had chosen him to teach

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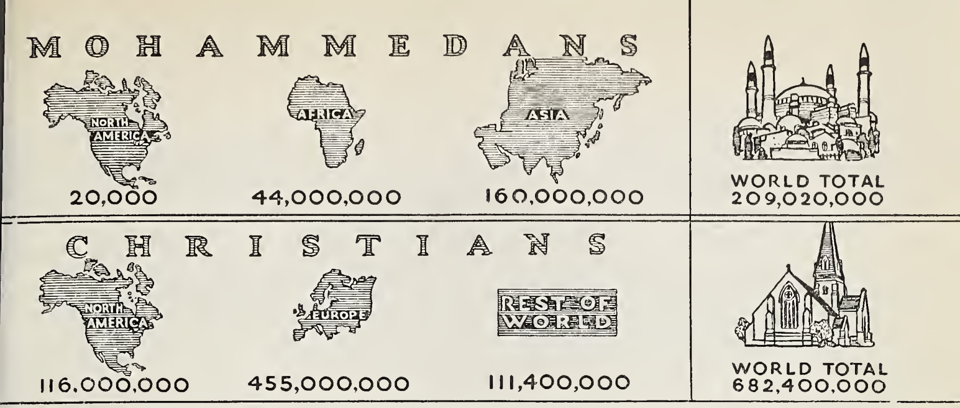
[1] There are some Mohammedans in the United States also.



Can You Compare the Numbers of Christians and Mohammedans?

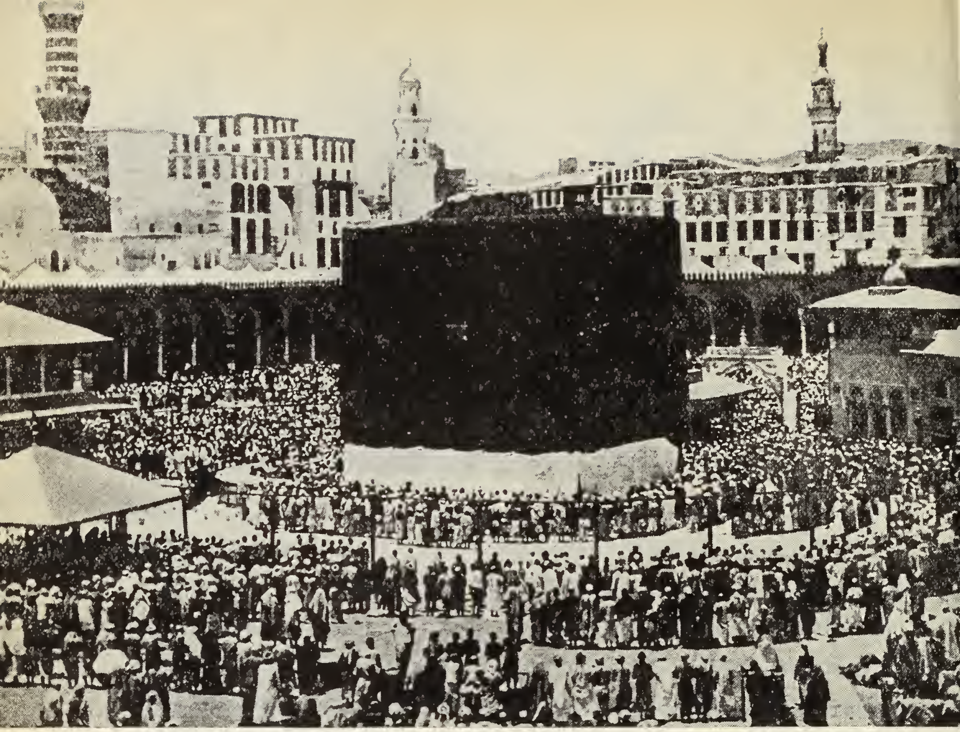
the world a better and purer religion. He taught that there is only one God (Allah) over all the earth.

Mohammed believed in both the Old Testament and the New Testament. He believed that Abraham, Moses, and Jesus were prophets. But all of them, he believed, had taught only part of the truth. He himself had been sent as the last and greatest of the prophets.

After his death his teachings were gathered together into a book called the Koran. It is the sacred book of the Mohammedan world today.

In this religion there are no priests and few forms to follow. But many prayers are needed; and the believer must often give money or help to the poor. He must fast (go without food) at certain times, must honor his parents, and must deal justly with others. He must not drink any liquor. No one race and no one color of skin is considered better than any others; and pride is a great sin.

With most of those teachings you can agree. But there was a darker side also. In the desert lands women had always been treated very badly. They had *belonged* to their fathers or husbands, and they could not hold any property.



Pilgrims Still Visit Mecca. The Holy Place Is the Large Black Stone Building

Mohammed did much to help them. He said that women should be allowed to own property which their parents had given them. At that time even in Christian countries they did not have this right. He also said that they could not be married against their will.

But even after these changes women were still treated badly in the East. They were not considered equal to men, and a man might have as many as four wives.

Many of the people of Mecca did not like Mohammed's teachings. He taught that God is a spirit, but they wanted to go on selling idols. So they drove him out.

Other cities of Arabia, however, saw that his religion was better than anything they had known before. They were glad to receive it. Tribes from all over the desert joined him; they made up an army. So Mecca itself then received him, too. By the time Mohammed died, he left behind him a strong and united Arabia.

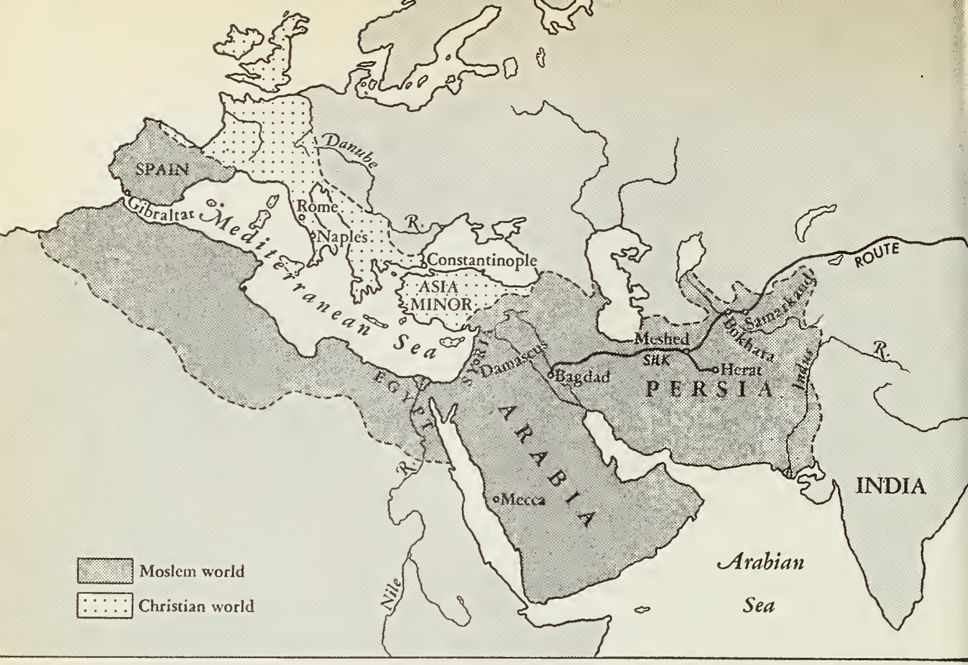
Other leaders, called *caliphs*, followed him. The number of believers grew every year. Then the Moslems began to spread out into all the near-by countries—into Egypt, into Syria and Asia Minor. They conquered one of the later Persian empires and went on to India. The empire of the "Great Moguls" there was one of the richest in the world. To this day the Mohammedans are a great power in India. Their country, as you know, is called Pakistan. The Mohammedans do not get along well with the Hindus.

Bagdad and Damascus became the capital cities of the eastern part of the Moslem empire. This part of the Moslem world even reached southeastern Europe—what is now called Turkey.

Little progress was made in the rest of eastern Europe. Africa offered a better chance. The Arabs spread their power far down into central Africa. They took all the northern coast, and crossed over into Spain at the rock of Gibraltar. The very name "Gibraltar" comes from an Arabic word. In Spain they set up a great kingdom. They went into France, but there they were stopped and driven back to Spain. They got no farther into western Europe.

The map on page 322 shows you how far the Moslem world (or *Islam*) went. It was all under one or more religious leaders, or *caliphs*. All that growth had taken place within one century. Nothing like it had ever been seen before.

Throughout this Moslem world much trade was carried on. Arab sailors sailed east to India, the Malay Peninsula, and even to China. Perhaps you have read the stories of Sindbad the Sailor in *The Arabian Nights*. Those stories were like the experiences of Moslem sailors.



The Moslem World and the Christian World Late in the Eighth Century

Their ships felt their way down the eastern coast of Africa as far as the island of Madagascar. Trading posts and villages were set up all along the way. Many signs of Arabic life can be seen there even yet.

There was much travel by land, too. The great Khorassan, or Silk Route covered all the distance from Bagdad to China. Other roads branched out in other directions.

In many of the countries that they conquered, the Mohammedans made great improvements. For example, they brought irrigation into southern Spain. But they also spread the slave trade. They sold Negroes from Africa, and Slavic peoples from the land around Constantinople.

To this day, Arabic is the language spoken not only in Arabia but in much of Asia Minor, and in all northern Africa, as well as Egypt.

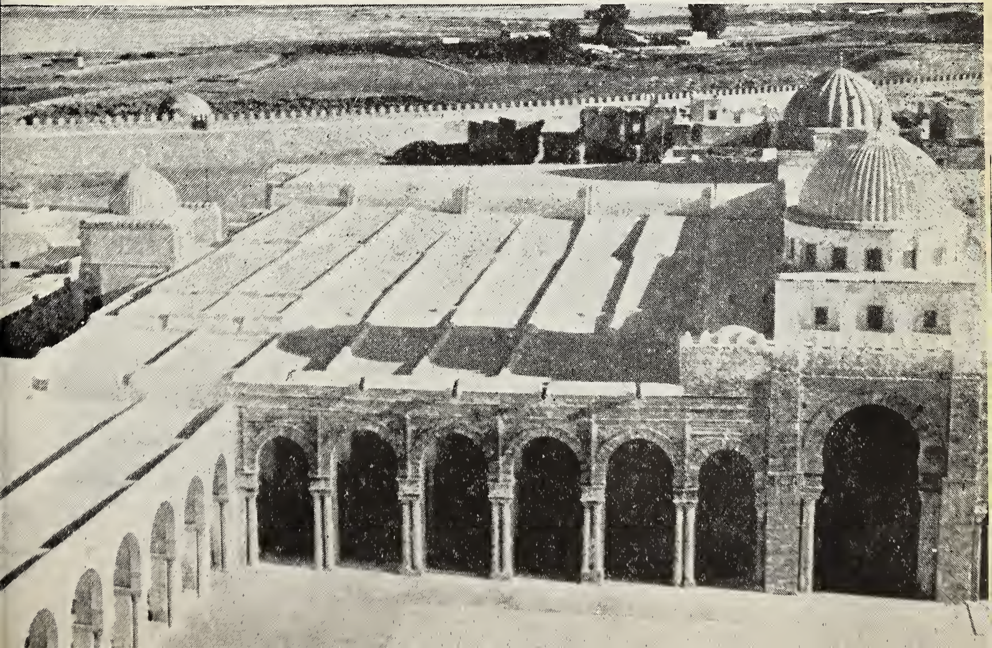
Moslem Art and Learning

In the seventh century the Arabs had been a backward people. But they had been able to learn. They learned lessons from all the people they conquered. They took over the art of the Persians, the Egyptians, and the Chinese. They learned much from the Byzantine Empire: city life, agricultural ways, the old Babylonian business ways, and Roman forms of government. Therefore Islamic civilization today is more like the Christian world than are the Brahman, the Buddhist, the Confucian, or other civilizations that have a different religion from ours.

The churches, or *mosques*, throughout the world of Islam were fine buildings. They were not great in size but light and elegant, rich and colorful. They used the arch, the dome, and the column. The arch, however, was not always simple and rounded in shape. The horseshoe shape was well liked; it was outlined in colored marble, in colored tile, or in mosaic.

Part of a Mosque. This Shows Only One Row of Arcades

© Screen Traveler from Gendreau



The mosque was built around an open courtyard, with arcades two to five rows deep around the inside to keep out the blazing sun. (See the picture on page 323.)

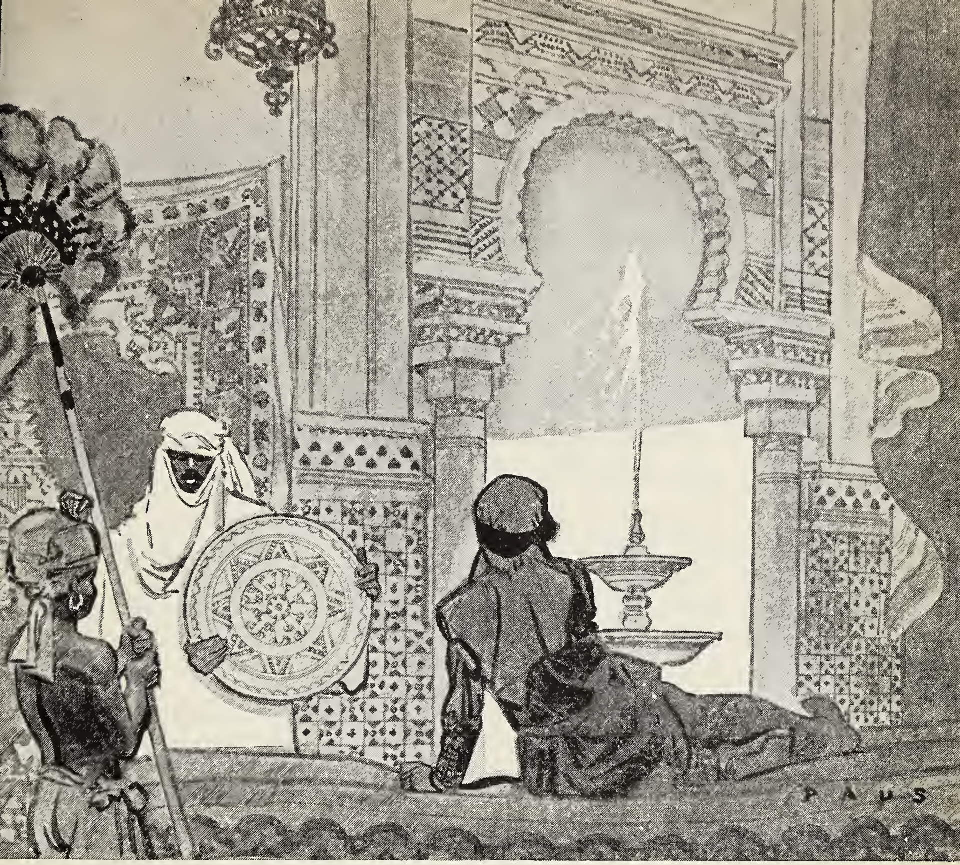
Besides a dome, it was likely to have one or more tall, slender towers called *minarets.* From these minarets five times a day a man sent out a call, to bring the faithful to prayer.

In the wall of the building on the side toward Mecca was the holy place. The Moslems always knelt facing this direction. The walls glowed with colored marble (in red, yellow, black, and green), gold mosaics, blue tiles, and panels of mother-of-pearl. The windows of deep-colored glass dimmed the light which poured through them. Handsome metal lamps hung from the ceiling by chains.

No designs in Moslem art were allowed to show the human body or animals. So their designs were taken from flowers, fruits, leaves, and curved lines. One pattern that they used we often copy today. It was made of interlacing curved lines with leaf patterns; we call this an *arabesque.*

No building was considered complete without beautiful gardens, in which were trees, flowers, and fountains. Some of the plants that the Arabs taught the Christian world to use were double roses, camellias, asparagus, kidney beans, artichokes, oranges, lemons, and apricots. They also brought rice, sugar, and coffee to trade for Western goods.

The rooms in their finest palaces contained little furniture, but the walls and ceilings were richly carved. Everywhere was fine metalwork. Besides cloisonné and inlay, they learned another kind of metal work. On a copper, brass, or steel bowl or tray was traced a design of scrolls, curves, and other figures. Strips of metal of a different color—perhaps silver or gold—were pounded into the base, following this design. Sometimes the base was covered with



Inside a Moslem Palace. How Many Arts Are Shown?

black material, to show off the design better. Such work is called *damascene* (much of it was done in Damascus). It is highly prized today.

The pottery too was delicate and beautiful. Many lessons were learned from China. Besides plain and painted pottery, the making of another kind was learned. A thin film of metal was spread over a porcelain bowl or jar after it was finished. The whole was then baked again. Such work is called *luster*. Luster pieces are much liked by people today.

One art was used more than any other in the world of

Islam. This was the weaving of Oriental rugs.[1] Sheep were raised everywhere throughout the Near East, and there was much wool. Dyes were made from plants and from minerals. The secrets of making them were carefully guarded and were handed down from father to son. One family might be famous for its deep green; another for its clear red; another for its soft tan; and so on.

The rugs were all woven by hand, some containing as many as thirteen hundred knots to the square inch. It would take a man twenty-five years to make a room-size rug like that. The patterns had a few large and many small figures. There were likely to be medallions in the center and in each corner, and a border around the outside. Some rugs were used on the floors; some for couch and bench coverings; some for wall hangings.

Are there Oriental rugs in any building in your city? If so, you might like to take your book there and look at each part of the design as you read about it. If not, you may be able to find pictures of Oriental rugs.

Today it is hard for us to believe that the civilization of Europe was ever far behind that of Islam. But it was true in the centuries following the Moslem conquests. The Moslems taught Europe many arts and crafts.

The Arabs brought some of the old Greek and Roman writings with them when they took Spain and Sicily. Medieval Europe learned about these writings not directly from the Romans but through the Moslems. They set up universities to which Christians came to study science. For there were no universities in the Christian world at that time. Doctors from all Europe came to study at their school of medicine at Salerno (near Naples, in Italy). Their hospitals were the finest since the time of the Hellenistic Greeks. The Jews too had such schools.

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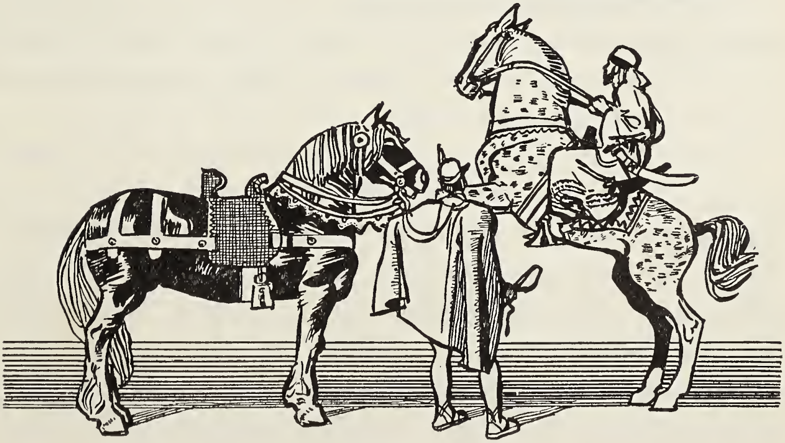
[1] Some of the best-known types are Isfahan, Kermanshah, Shiraz, Kashan, and Meshed.

Followers of Islam taught medieval Europe to use the Hindu-Arabic figures and the number plan based on position. They also spread the new knowledge of geography that they had gained in their trade and travels. They taught the manufacture and use of paper, and the art of sailing by the compass. They brought their famous Arabian horses into Europe. They brought from China another new idea, the use of gunpowder. What happened because of this invention you will read on page 375.

In Arabic Spain there were seventy public libraries at a time when few people in Christian Europe could even read. The best steel in the Western world was called Toledo steel or Damascus steel, because it came from those cities.

After reading this long list of what the Christian world owes to the Moslems, we should never again feel that any Christian must necessarily be better than any Mohammedan.

A European Horse and an Arabian Horse.
How Do the Two Horses Differ?



A New Way to Keep Order

What was happening in the West while these wonderful things were going on in the East? Matters had not changed greatly since the breakup of the Roman Empire.

Each district had to look out for itself as best it could. Bands of robbers roamed about the country, carrying off whatever they could lay hands upon. They even reaped crops that farmers had been growing all the year long, and carried away the grain. There were no soldiers to punish them.

People could not keep on living in such disorder. They had to think out a plan to protect themselves or they would starve.

How the Land Was Protected

The different groups in the Middle Ages began working out a new plan. Any man who was strong enough and bold enough, built himself a castle on a hilltop or on a steep rock. That was the only way in which he and his family could be safe.

All the neighbors who had any land near by were eager to join him. They wanted to form a group with the strong man in the castle as their leader. They wanted him to protect them and their families. He agreed to do so.

But in return they had to give up their lands to the owner of the castle. He became their *lord*. He allowed them to remain on the land and to live in the same houses as before. But they were no longer the owners—the lord was the owner of it all. So the strong warriors became the landowners of the whole country.

You can see that a bargain had been struck. The lord had to protect the others; the follower gave up his land.

He no longer owned it. The follower became a *vassal* of the lord. The lord's right to rule and to live in the class of nobles was handed down from father to son. No man was a noble unless he had under him some persons to whom he gave the use of part of the land.

Are you sure that you know what the lord was to do as his part of the bargain? Can you tell what the vassal had to do as his part?

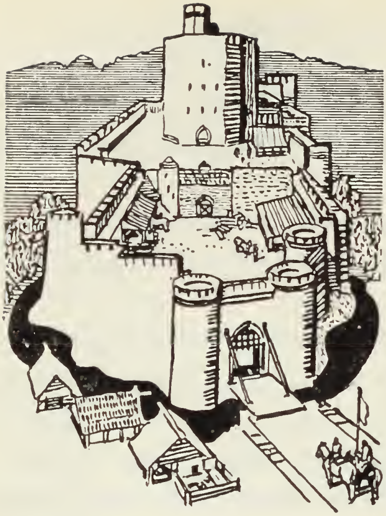
The plan by which lords and vassals worked together was called the *feudal system.* But these two classes together made up less than one fifth of the whole population. All the rest of the people were outside the feudal system entirely. On pages 336–339 and 344–355 you will read how they lived.

This plan may seem to you strange and unfair. But it was the best thing which people at that time were able to work out. It helped to bring back at least some degree of law and order, which western Europe so badly needed. It helped to protect the lower classes. But there was little freedom in the feudal system, and little equality.

The lords and their vassals did not have an easy time. They had duties to do. Some did their work well and some did it poorly. But all were expected to do battle for their lands. They could not spend their life in just having a good time, as some rich men do today.

Life in a Castle

A castle was not a single building. It was a group of buildings inside a high stone wall; it might cover ten or fifteen acres of ground. All around ran a deep ditch, or *moat,* usually filled with water. The only way to cross the moat was by a bridge; it could be pulled up when not in use. This was the *drawbridge.*



A Castle. Why Is It Built High on a Rock?

The principal building of the castle was a tower which rose high above the wall. Around it were smaller buildings. These were used for the supplies or for the working people to live in during wartime. In the center was an open courtyard. The cattle could be driven here in case of attack by an enemy.

The tower itself was several stories high, with winding stairs leading from one story to another. The principal room was the great hall, where the lord and his lady ate and slept. Around its walls hung his shield and his weapons. Over the stone floor was scattered straw or rushes. The windows were only small slits in the thick stone walls; little glass was used. A huge fireplace at one side of the room gave the only heat. A castle was therefore a cold and damp place to live in; and much of the time it smelled bad.

Pieces of furniture were few. The huge bed had posts[1] from which curtains could be hung to keep out the cold air at night. Coverings were chiefly great furs. Sheets were not used, and the mattress was likely to be only a layer of straw.

The few chairs were very large, with great high backs; benches and stools were more commonly used. The tables were long, heavy boards. (Sometimes even yet you hear people speak of "board," meaning meals.) Great chests held the extra clothing.

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[1] Sometimes today you hear people talk about "four-posters."

In the kitchen was a fireplace large enough to roast a whole pig or ox. The iron or copper cooking pots were huge. They hung on chains over the fire. Dishes were either of wood or of pewter. Knives and spoons were used, but no forks. People ate with their fingers. (Perhaps some child can bring a pewter dish to show the class.)

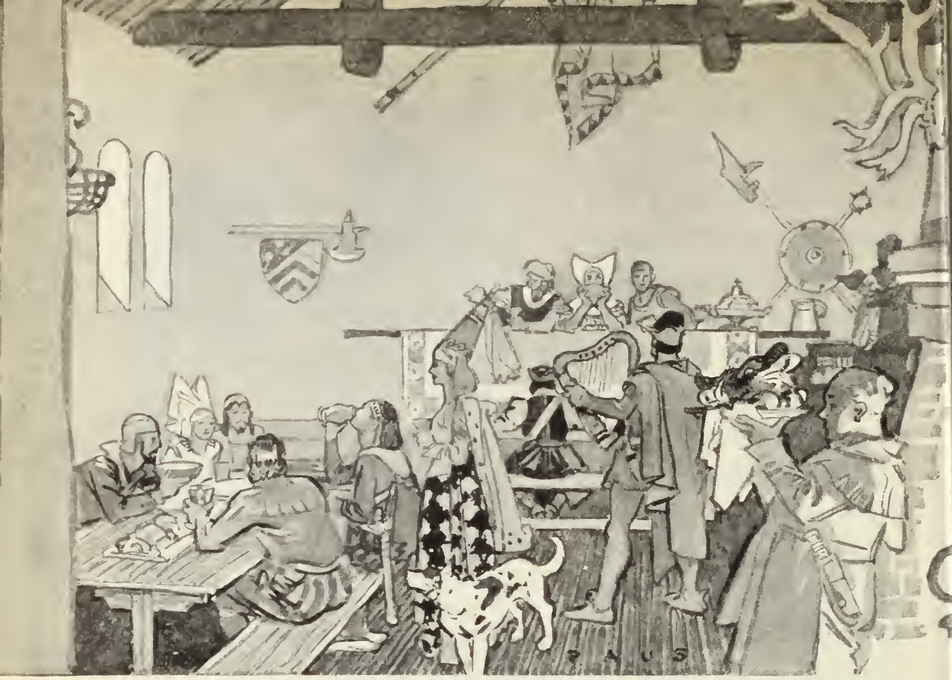
Enormous amounts of food were served at every meal. There were always three or four kinds of meat and birds. But it was hard to keep meat fresh in warm weather. Often it was almost spoiled; for of course there was no ice to be had. So the cooks used plenty of spices to kill the smell and the bad taste. Do you wonder that everyone was very eager to secure spices from the Far East?

Not many vegetables were known except cabbages and onions. Fruits such as apples, pears, and strawberries might be had in season. The chief sweetening was honey. The water supply was not pure; it often caused disease. People drank little water; wine, beer, and ale were more commonly used.

It is likely that no ordinary workman of today would be satisfied to live in such a house or to be served such food. But in those days life in a castle was considered very grand indeed.

Clothing in the Middle Ages was not like that of the Greeks and Romans. The garments were not simply wrapped around the body; they were put on and fastened with buckles or huge pins. Wool was the chief material used.

Men wore a sort of fitted coat reaching below the hips, long woolen stockings, and pointed shoes. For outdoor wear they added a cape. Their garments were decorated with bands of fur, or sometimes with little silver bells.



A Feast in the Great Hall of the Castle. Why Do Some People Sit at a Higher Table?

When going into battle they wore suits of heavy steel *armor*. Pieces covered the head, the neck, the chest, the arms, and the legs. A shield was held in front of the body by the left arm. On it were painted signs to tell who the man was (for his face could not be seen). Each man had his own sign; this became known as his *crest*. A sword, a battle-ax, and a long spear or lance completed the warrior's outfit. Do you wonder that only a very strong horse could carry a knight in full armor?

The women wore long, tightly fitting dresses; buttons were invented to fasten them. Their headdresses were very tall. Their belts were decorated with gold or jewels. Styles changed very slowly in the Middle Ages. The lady of a great castle would often wear the same dress that her mother and grandmother had worn before her.

Nobody had any night clothes. And since there were no bathrooms, bathing was not common. In fact, it was thought to be bad for the health. We would say that the people could not have been very clean.

Work and play of the nobles. The lord of a castle had much work to do. He had to keep his own family and servants prepared for war at any moment. He had to see that all his vassals did the same. And he had to be in the front line of every battle.

At home he had to keep peace among all his followers. He listened to their quarrels and decided what ought to be done. He had to watch all the crops grown on his land and see that the food was stored properly. Often he had to go hunting to get meat enough for his family and his servants. He had to plan the repairs on his buildings.

The lady of the castle had even more to do. She had to plan all the cooking and the cleaning. She had to see that enough wool was washed, combed, carded, and spun. She had to keep the weavers busy at their looms. She herself did much fine embroidery work, especially altar cloths for the church.

Besides the ordinary cooking, she had to be certain that enough bread was baked, beer and wine made, meat and fish smoked. She was the only doctor for the sick people of her household. Her only medicines were plants that she grew in her own garden. And sometimes, when her husband and sons were away, she had to protect the castle against attack.

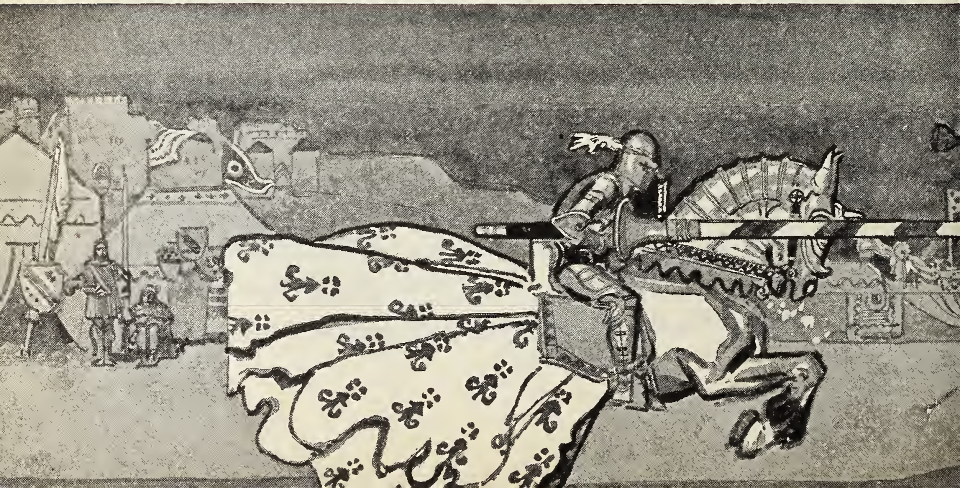
But life was not all work. The nobles enjoyed their hunting. If they trampled down the serfs' grain (see page 338), that did not bother them. A favorite sport was training birds, called falcons, to hunt other birds.

At their feasts they liked to listen to stories told by wandering storytellers. They played chess. Sometimes a man with a dancing bear on a chain would pass by. Players called *minstrels* also wandered from castle to castle with their harps, viols, and bagpipes. They made up music to go with poems and songs. This music was mainly chords. Since it was not written down, but was played by ear, it was seldom played twice exactly the same, even for the same song.

The man who composed the music, however, was not considered important. The really important person was the man who composed the words; he was called a *troubadour*. He sang his own songs, but he would not think of playing his own music.

But what both the men and the women of the upper classes liked better than anything else were the war games that were held perhaps once a year. Some great lord would invite all the countryside to his home. He would set up many tents in an open space and would prepare to take care of hundreds of horses.

Another large open space was marked off, with lines at each end. This is where the war games were to be held. All



along the sides were tents from which beautiful ladies could look on.

When the great day arrived, all the important people for miles around were there. The games began between two knights in full armor, one at each end of the open space. When the signal was given, they rode straight at each other. Each tried to unseat the other with his long spear or lance. This part of the games was called *jousting*.

Then came the more exciting part, the *tournament*. A whole group of knights lined up at each end of the open space. They rode as fast as they could to the center of the field, and came together with a sound like thunder. Many were hurt and some were killed. But the nobles lived in a cruel age; they were used to blood and suffering. The ladies calmly presented ribbons to the winners, and the tournament was ended.

The knights had a sort of club, or order, to which everyone was eager to belong; it was known as *chivalry*. The members promised to be brave, true, honorable, and courteous. There were strict rules for them to live up to. Many of our ideas today about how a "gentleman" should behave have come down to us from chivalry.

Jousting

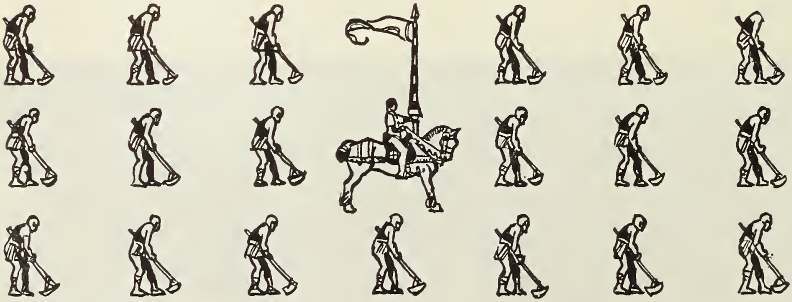
However, the knights were bound to show courtesy and kindness only to other knights and to their ladies. The same things were not needed in their treatment of common people. Today we would say that persons who acted that way did not have good manners at all; but ideas were different then.

How Most of the People Lived

If you had lived in the Middle Ages, you would almost certainly not have lived in a castle. For nineteen twentieths of all the people did not. You would have lived in the country and you would have done farm work; you would not even have been a free man.

The houses of such people were grouped in a village at the foot of the hill, below the castle. Their houses were not scattered about, each on its own farm, as ours are today.

Each little hut contained only one room. The floor was of earth, and the roof was thatched with straw. There was a window but no glass; a fireplace, but no chimney. Smoke filled the room whenever the family was fortunate enough to have a fire.



The Number of Nobles Compared with the Number of Serfs. How Many People Were Serfs as Compared with Every Person Who Was a Noble?

There were only a few pieces of furniture: stools and benches for chairs, and a board for a table. The bed was likely to be only a bundle of straw on the floor in one corner. Men, women, and children had only one garment apiece. The man's might be a pair of heavy leather breeches; for leather was often used for clothing in the Middle Ages. Food was always the same—rye bread, soup made of cabbages and onions, and a little meat on feast days.

These working people were not free to leave the lord's land. They had to stay there, and they had to work. However, they could not be sold; so they were not slaves. They were half slave and half free. They were called *serfs*. Such people did not even have a last name. And of course they never went to school.

That is the way you would have lived if you had been born many centuries ago.

The serfs were given protection against all enemies, and the lord helped to keep order among them. But they had little freedom, and of course they knew nothing about equality. You may be very glad that you did not live in the Middle Ages.

How farm work was done in the Middle Ages. A lord did not give out all his land to his vassals. He had to keep some for himself in order to feed his own family and servants. But he certainly did not intend to do farm work with his own hands. That is what the serfs were for, he thought.

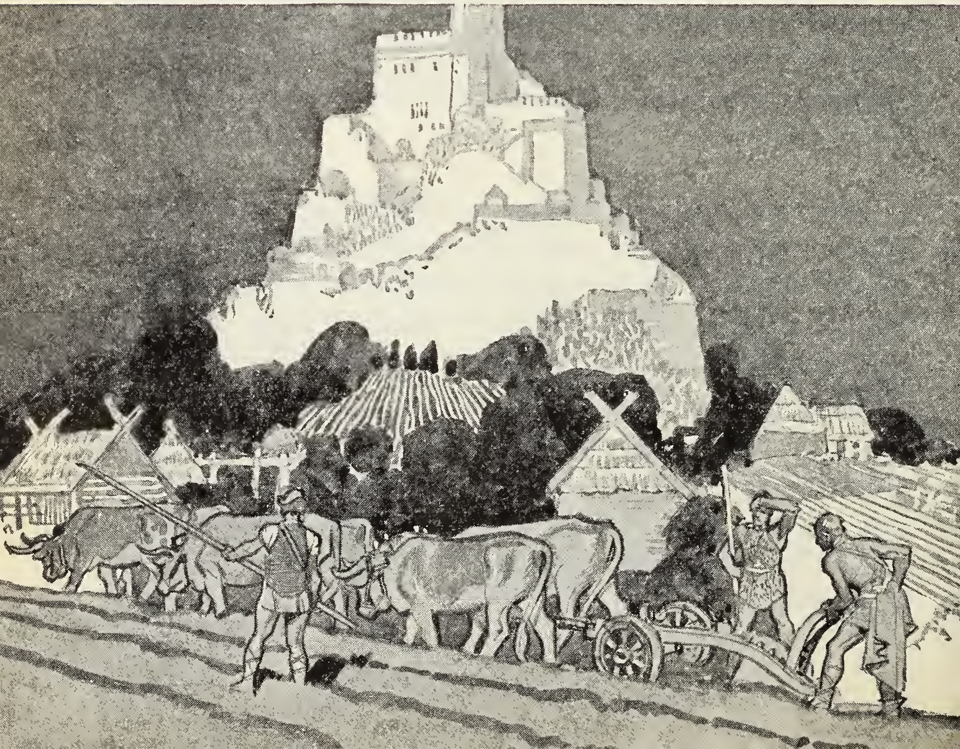
He divided his land into three large parts. One was for spring planting. One was for fall planting. The other was allowed to "rest." Since fertilizer was not used, this was the only way known to keep the land from wearing out. The fields that were allowed to rest were said to be *fallow*.

This *three-field* system in agriculture was in common use until our own times, even in America. Sometimes you find it even yet.

If the season was spring, the lord divided his spring-planting field into narrow strips. The best he kept for himself; the rest he gave out to his serfs. Of course, they did not "own" any of these strips; but they were allowed to plant crops on the few that they received.

In return for the use of their strips, the serfs had to do all the work on the lord's strips too. They worked for him three or four days a week. Farm work was hard in those days. The plow was a great wooden piece, dragged by six to twelve oxen. Hoes too were of wood. Seeding was done by hand, throwing the seed broadcast over the strip of land. Harvesting was by sickle or scythe. The crop was poor;

Serfs Plowing the Land



two bushels of wheat seed per acre would give a crop of only ten bushels. Our own farmers expect at least fifteen bushels per acre.

After the crops were cut, cattle were turned into the fields to graze. They never had enough to eat and were small and thin. The few that were allowed to live through the winter suffered greatly; they had only moss and twigs to eat during the long season of cold.

You can see that both the people and the animals had a hard life. With everyone working every day, just enough food could be raised to keep the household alive. There was little left to sell outside.

Population in the Middle Ages

Nobody knows just how many people lived in any part of Europe during the Middle Ages. The governments no longer counted them as had been done in the Roman Empire and in ancient Persia.

The size of the population, however, does not seem to have changed greatly from century to century. Very large families of children were born; ten, twelve, and fourteen were common. About one half of them, however, died before they reached the age of ten because the health conditions everywhere were so bad.

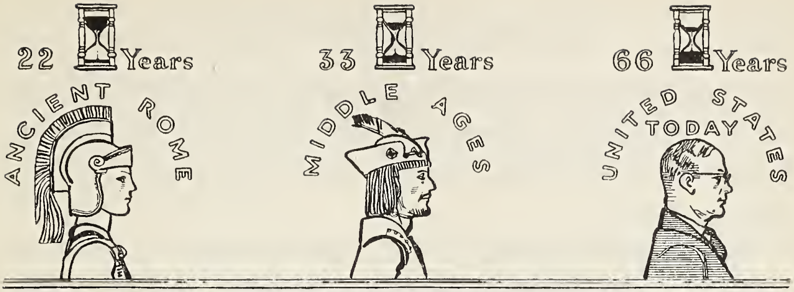
Grown-up people too were very likely to meet sudden death from wild animals or in war. If a man was wounded even a little, he was likely to die of blood-poisoning. For there were few skilled doctors.

In ancient Rome the age to which people could expect to live had been about twenty-two years. In the Middle Ages (say, 1200 A.D.) it was about thirty-three years. In the United States today a person can expect to live about sixty-six years. (What do you think has caused the difference?)

Because most of the people in medieval Europe had to work so hard and live in such bad surroundings, they grew old quickly. A man of forty was considered aged, and a woman of thirty was an old woman.

You have already seen that the water supply was not pure. People lived in the midst of dirt. Garbage was not taken care of. There were no sewers or bathrooms. Germs were not known to be the cause of many diseases.

So diseases were common, especially those of the skin, scalp, and eyes. Also there were waves of other strange sicknesses which no one knew how to cure. Again and again



How Long a Person Might Expect to Live

these swept over all Europe, killing as many as a quarter of the population. One, in the fourteenth century, was called the "Black Death"; today we would call it the bubonic plague. It was worse than many wars taken together. Smallpox also was common.

Often there were times in Europe when no food could be had. If there was too much rain in a certain section, or if the year was a dry one in another section, there would be no crops. Then great numbers of people would starve to death. All the others would suffer greatly from hunger.

Today, in such a case, we should send in food from some section where there are crops. But in those days there were few roads, and the carts used in transportation could hold very little. All the oxen in a whole kingdom could not pull enough such carts loaded with food to help those where there was no food. Moreover, you remember that each farm raised barely enough for its own people. There was little to share with others.

Until better ways of carrying on agriculture could be found and larger crops could be raised, the population of Europe could grow no larger. The world was supporting as many people as it knew how to do.

You remember that the Romans had driven the Jews out of their homeland. Roman soldiers scattered them over the face of the earth. Wherever they went, they were wanderers and strangers.

Therefore the Jews in each district had to "stick together." They dressed differently from their neighbors and ate different kinds of food. Their life went on around their synagogue (or church). They were a people apart.

Since the rest of the population knew little about the Jews, wild tales were told about them—and were believed. The fact that many of the tales were not true, made little difference to those who listened.

The Jews were forced to live in one part of the city, called the ghetto. They were not allowed to become citizens, and they could not own land. So of course they could not become farmers. Neither were they allowed to learn a trade. Therefore they had to turn to business in order to earn a living. Ages ago their fathers had learned business methods from the Babylonians; so they were able to do such work.

The Christian Church in the Middle Ages did not allow its members to lend money and charge interest for it. Many Christians, however, were always eager to borrow money. So the Jews became the moneylenders of Europe. They often charged a very large sum for the use of their money, and the Christians hated them for that.

As the centuries went by, the Christian merchants saw that the Jews were making a great deal of money by lending at interest. Then no rules of the Church could hold them back. They began to lend money themselves. Since the Jews were no longer needed, they were sometimes driven out of the country.

Then some of the countries learned, too late, that they had made a mistake. They had lost some of their hardest-working members. They had also lost the good ideas that those people had sometimes been able to give them. The countries that drove out all the Jews were always the poorer because of that act.

Even in a country which did not drive them out, whenever a bad accident happened or trouble broke out anywhere, the blame was likely to be put upon the Jews. Their homes and shops would be broken open and burned. Many Jewish men, women, and children would be killed.

But the worse the Jews were treated because of their religion, the more closely they held to it. You have already seen the same thing among the early Christians. Treating people badly because of their religion always has that effect; but even today the world has not learned that lesson.

Do you wonder that many of the Jews longed for a homeland of their own? Today there is such a country. It is in ancient Palestine and is called Israel. Many other Jews, however, would rather live in the country in which they and their fathers were born. They do not want to move to Israel.

Towns Begin to Grow Up Once More

In the early Middle Ages there were very few cities in Europe—nothing but villages of serfs. But in the later Middle Ages the Moslem world began to break up into small pieces. Then the Mediterranean Sea was free once more. It was possible to carry on trade again.

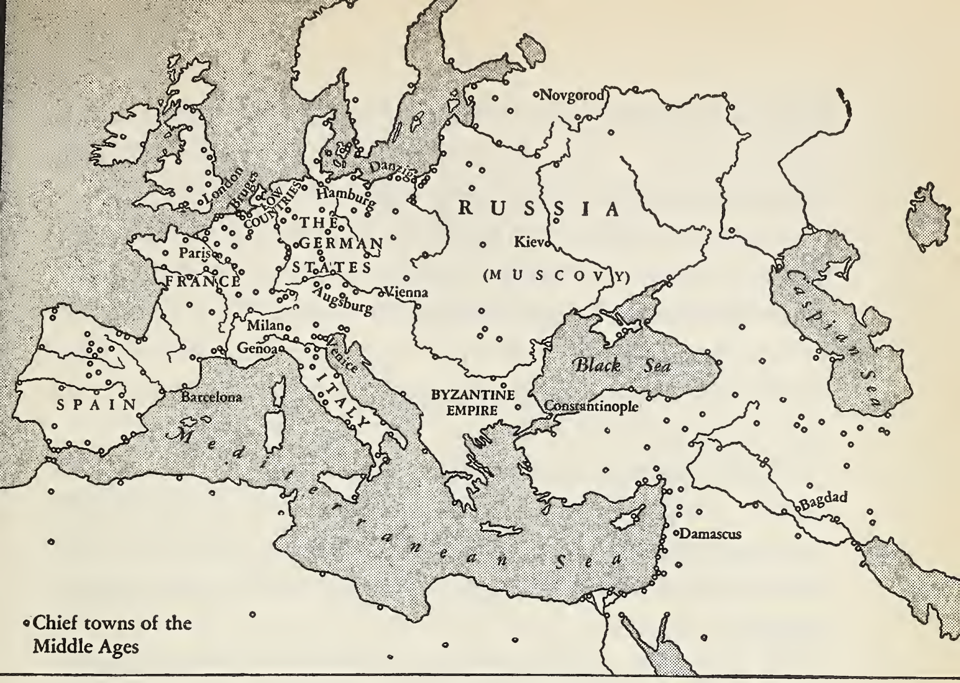
And so, little by little, some of the older cities woke from their long sleep. Those in Spain and Italy began to trade with Moslem cities. Genoa and Venice especially became rich. The "Low Countries" (what we now call Holland and Belgium) bought and sold goods for all northern Europe. A few of these cities had as many as 100,000 people, but most of them did not have more than 5000. Even in the later Middle Ages, however, three fourths of all the people were still farmers, even in the most thickly populated areas. In most parts, nine tenths were still agricultural workers.

Trade in the Middle Ages

What did the people of western Europe have to sell to the Moslems? They had woolen goods, leather, wine, iron, and amber. What they wanted from the East were silks, cottons, linens, carpets, fine steel, precious stones, perfumes, drugs, spices, and sugar. You notice that the West bought many more things than it sold.

Goods were brought from the Far East to the Near East partly by ships and partly by caravans. From the Near East to southern Europe they were carried by ships. Then they were unloaded.

Heavy carts pulled by oxen picked up the goods. The way these carts traveled on the road would have seemed



Towns in the Later Middle Ages

strange to you. Every driver kept to his left rather than to his right. That is the way that some people in Europe drive today in their automobiles.

The carts bumped their slow way across narrow places (called passes) in the mountains. Then they came down on the other side. They crossed rivers by means of fords or ferries. But at last they came to the end of even these poor roads. Beyond were only woods and plains.

Then the carts in turn had to be unloaded. Peddlers with packhorses picked up as much as their horses could carry. These peddlers wandered about from castle to castle in western Europe, selling their goods.

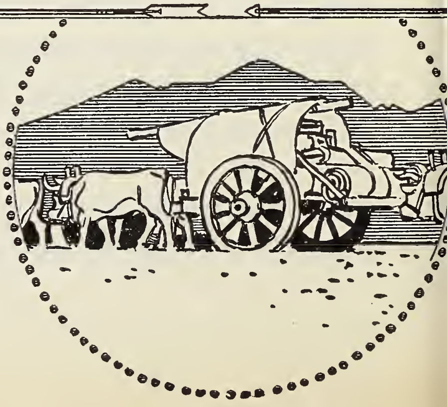
In some places were the larger towns about which you have read. These towns might be where two old Roman roads had crossed, or where a road crossed a river. As time went on, many peddlers gathered in such places. Some of them were able to sell so much that they no longer had to wander about. They were able to settle down, and they liked that much better than moving about all the time.

In some such places the custom grew up of holding a great *fair* once or twice a year. Merchants from many countries brought their best goods—from Italy, Spain, the Byzantine Empire, and even from the Far East. They would build huts or stalls in which to show their goods; for the fair might last as long as six or even ten weeks.

Each morning a bell rang to show that everything was ready. People came from hundreds of miles round about in all directions—lords and ladies, perhaps even the king himself, and peddlers laying in supplies for next season's business.

At one stall would be shown precious stones—emeralds, rubies, pearls, and diamonds. In several others silks and velvets would be spread out, shining with all the colors of the rainbow. In still others there would be swords and armor made of the finest Toledo steel. How the knights liked to practice with these swords! They tried to see if they could cut through a piece of paper or a piece of thin silk thrown into the air.

In other stalls were all kinds of spices. Perhaps the king



would stop there to buy two or three nutmegs as a fine gift for a friend.

Everyone had a good time seeing the sights, hearing the news, and chatting with all the others. When the fair was over, everyone would ride home feeling very happy to show what he had bought, and to tell about his adventures.

How a Medieval Town Looked

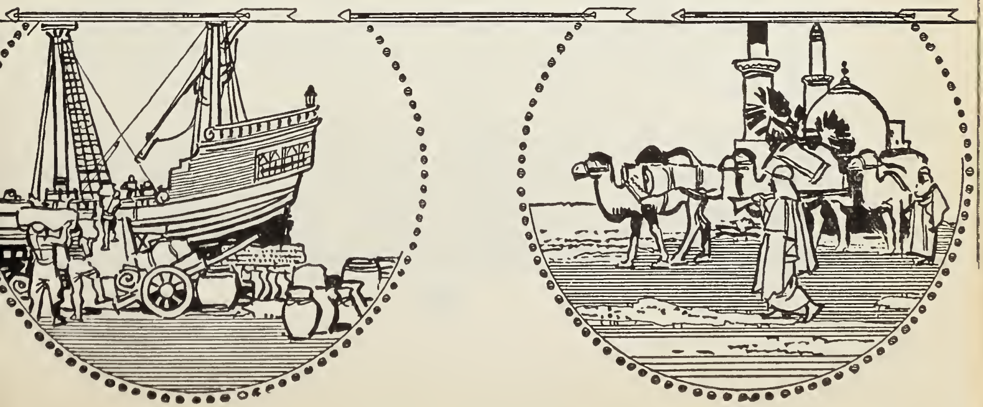
It is easy to tell how a medieval town looked, for some of them remain with little change to this day.

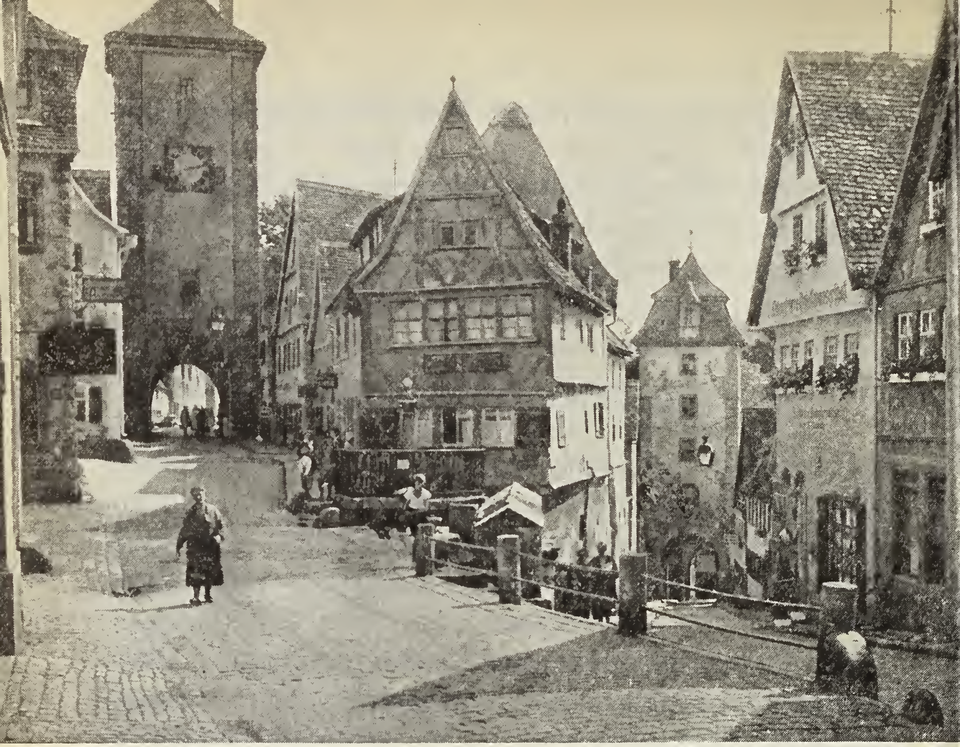
The buildings were crowded closely together, with a wall around the outside of the town. Watchmen walked back and forth on this wall; they served as police and as soldiers.

The streets, of course, had to be very narrow. They were only for people on foot or in carrying-chairs—not for carriages. They were winding, and were dark because of the tall buildings on either side. In the early Middle Ages there was no paving. But, in the larger places, in about the thirteenth century, the open square in the center of the town was paved with rounded stones called cobblestones.

There were no sidewalks. People walked along the edge of the street, next the houses. At any moment they might

Can You Tell What Part of the World Each Picture Shows?





Burton Holmes from Ewing Galloway

A Town of the Middle Ages. Can You Trace the Wall of the Town from One Side of the Picture to the Other?

be showered with dirty water or garbage that the women threw out of the window. The present-day habit of a gentleman's walking at the outside of the street and a lady walking on the inside began at that time. He might need to protect her at any moment.

The garbage lay where it fell until the rain washed it down the hillside or until wandering pigs ate it up. Do you wonder that the town smelled bad and that disease was common?

At night the streets were not lighted, and there were many robbers. The citizens fastened their doors with enormous chains and locks. Their windows were barred with heavy shutters. Anyone who had to go outside after dark had to light his way with a lantern. If he could, he took along several servants to guard him. Life was not very safe.

An open square in the center of the city was used as a public meeting place and a market place. (See page 362.) In the center of the square there was often a well with a roof over it.

The houses could not have lawns or yards, for land cost very much. They were narrow and tall, perhaps as many as five or six stories high. In central and northern Europe the roof was very steep, so that it would shed the rain and snow. Chimneys and glass windows were not in common use until the later Middle Ages.

A merchant would use the first floor of his house for his shop and his storehouse. He himself might live on the second floor. The other floors were rented to different persons. Among the poor a whole family might live in only one room. Crowding was as bad as in ancient Rome.

Most of these buildings were of wood. If fire broke out, it might burn down the whole town. That often happened.

The Most Beautiful Gift of the Middle Ages: the Gothic Cathedral

You may think that a medieval town must have been interesting but not beautiful. But in many towns there was one building so beautiful that we almost forget the ugly spots. This was the great church, or *cathedral.*

The cathedral was in the form of a huge cross laid on the ground. At one end was the high altar, splendid with marble and gold, and decorated with candles and flowers. A marble railing separated it from the rest of the cathedral.

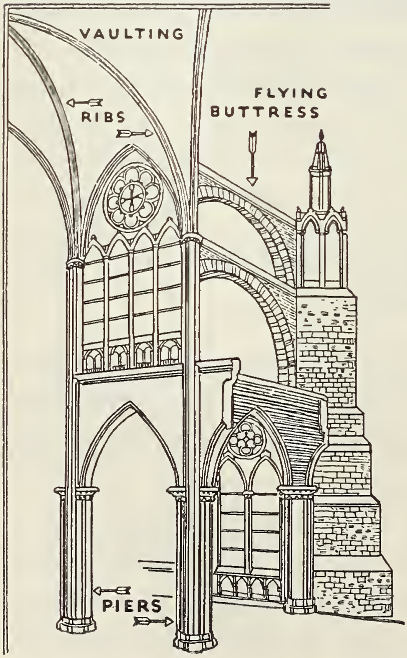
In the two crossarms and along the sides were smaller rooms, or chapels. They also were beautifully decorated. In the great open space, or *nave*, there were no seats or benches; people often stood for hours during the long church services.

How to hold up the weight of so enormous a building was a problem. The main weight of the walls was supported by piers, or buttresses, running from the floor to the ceiling. (See the picture below.) These piers could be seen on both the inside and the outside of the building.

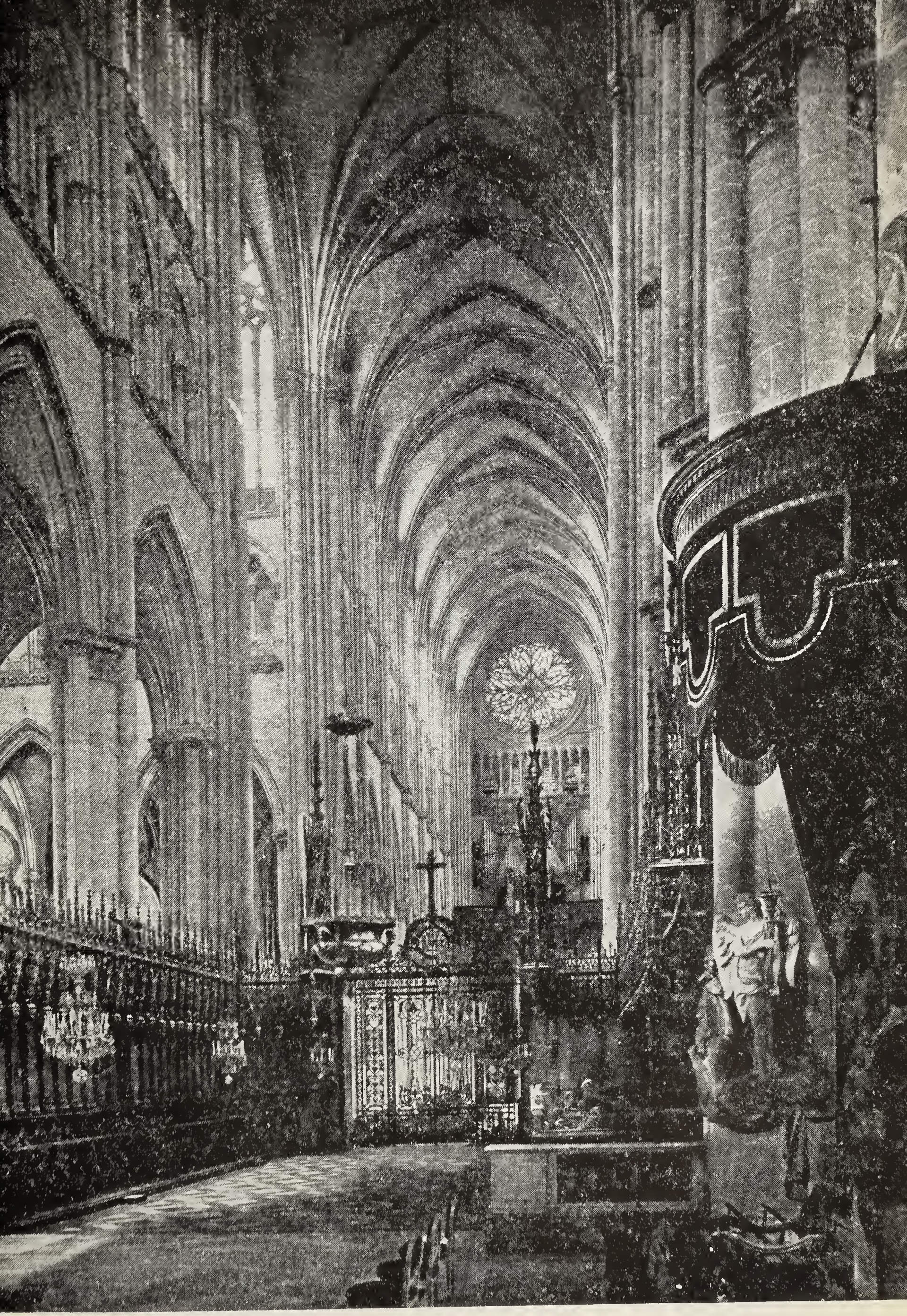
To hold up the roof, vaults and stone ribbing were used, as in the old Roman plan. They rested on the piers. They were so heavy, however, that they pushed outward as well as downward. So, on the outside, great pieces called *flying buttresses* were built out to help hold this pressure. (Look at the picture again.)

In middle and northern Europe the sun does not shine as brightly as in Italy. The cathedrals needed all the light they could get. So their stone walls were cut away, in between the piers and buttresses. That left a very large space for windows. And to give still more light, the windows and arches were pointed at the top.

Gothic Architecture



These windows formed one of the chief decora-



Inside a Cathedral. This Shows Only a Small Part of the Building tions of the building. They were made of small pieces of stained glass put together to form a design. The colors were deep and rich—dark reds, glowing purples, deep greens. When the sun shone through these windows, they made all the inside of the cathedral glow with color. Glassmakers of today are not able to make such beautiful windows.

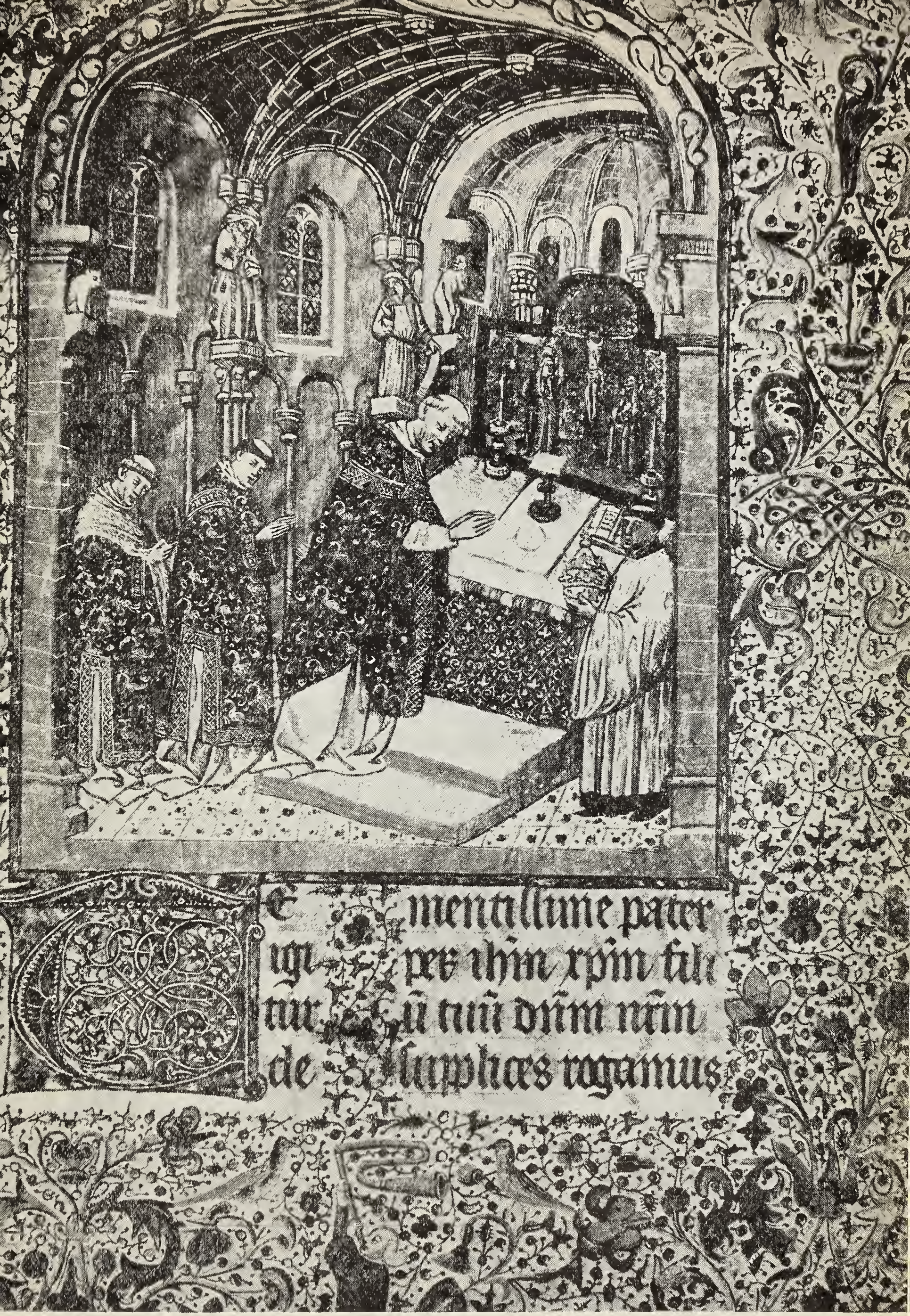
Everywhere, both inside and outside the building, were rich carvings. Even corners far up under the roof were carved with as much care as the great entrance doors. For medieval men knew that God sees everywhere. Statues in the round in both stone and wood filled all the corners.

Every art that men knew, was used in making and decorating the cathedral. About architecture and sculpture you have just read. Weaving gave as its gift the heavy robes worn by the priests, their cloth shining with threads of gold and silver. Embroidery and handmade lace made the altar cloths rich.

The candlesticks, the basins, all the church vessels, and even the hinges on the doors were the finest pieces of metal that the metalworkers could make. They were cast and wrought by hand in graceful designs; some were set with precious stones.

The pages of the prayer books had borders of gold and blue around the outside. These were decorated with scrolls and running designs of leaves and flowers. There were also paintings in little squares showing scenes from religious stories or from nature.

Such a building as this is the *Gothic* kind of architecture. If you want to decide whether or not a building is Gothic, look for four things: (1) ribbing in the vaults of the ceiling, (2) clusters of piers, (3) pointed arches and windows, (4) and flying buttresses which help to hold the weight at the top.



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A Page in a Hand-written Book. Do You Suppose that Many People Today Could Make as Beautiful a Page as This?

Today most of the signs of medieval life about which you have read have passed away. Nobles no longer rule. There are no longer serfs who have to give most of their week's work to the master's crops. But in many a town of Europe today, rising high above the mean little houses and the dark shops, is a great Gothic cathedral pointing to heaven. It still stands as a hope and a promise that right will someday rule the world.

If you could have attended a service in the cathedral, you would have especially liked the music. The old Byzantine plain song had changed greatly. It was now called the *Gregorian chant*. The people themselves could no longer sing it; trained choirs of men and boys were needed.

Different melodies for different parts were woven together into one whole. Such music for "many voices," or "parts," is called *polyphonic*. This was the beginning of harmony. You are using polyphonic rules when you divide your class into groups for singing a "round."

Written notes were now used regularly. The music was "measured" off into time divisions (as we now measure by bars).

At the great church feasts different voices took the part of different persons in the Bible stories. (Can you tell who some of the persons might be?) This was the beginning of the music form that we call the *oratorio*.

Sometimes the singers and speakers marched about, from one place in the cathedral to another, to give their parts. If there were too many of them and the audience was too large, they all went out of doors, and the performance was given there. That is the direct beginning of our modern theater.

As the Middle Ages were drawing to a close the church music grew ever more and more difficult. One kind was entirely for voices, or for "a cappella" singing. Each part was carefully worked out until it was perfect; and there might be as many as *fifty* of them! We never try to use so many today. But all together, the parts had to make a perfect whole. We wonder how the men who composed the music could ever have done so difficult a task.

Besides the singing there was organ music. The use of the great organ had been learned from Byzantium. Special music was written for it. Organ music also was made up of many different parts. Only a very good musician could play the difficult music that was written for the great church organs.

Many new inventions were made, such as the use of the sharp. And as musicians had to have more and more training, they slowly became respected. They were considered even as good as the bakers and butchers. You remember that that had not been true in the early Middle Ages.

To Talk About

Do you see any reason why people who live after us may someday call our own times a Second Dark Age?

Can you think better if you go off by yourself, as the monks did?

Do you yourself respect people who work with their hands? How do you show your respect?

Are there any monasteries or convents near your home?

Are the Mohammedans foolish to believe in their religion?

Have you ever heard the term "great mogul" used today? What does it mean?

Is there a covered arcade in any building in your town?

What things did the Christian world of the Middle Ages owe to the Moslems? (Make a list.)

In the feudal system, who had the best of it—the lords or the serfs? What might have happened to the serfs if they had had no lord? How are poor people protected today?

Would it be easy to fight when clothed in armor?

Whom do we consider more important today—the person who composes a piece of music or the person who plays it?

Do we have any amusement today that is as dangerous as jousting?

Compare an American farm with a medieval one.

Would it be a good thing for a serf that all his strips of land were not in the same place?

Are common people today better off or worse off than in the Middle Ages?

What is done today if food fails in any part of the world?

What did the countries lose which drove out the Jews?

Have you ever gone to a great fair, such as a state fair or a world's fair? If so, tell the class what you saw.

To Do

Copy your favorite poem in manuscript writing. Make it look as beautiful as possible.

Find out how many Mohammedans there are in the United States today. The World Almanac will help you. Why is this number not shown in the pictures on page 319?

Can you find a copy of the Koran in a public library?

Tell the class your favorite story from *The Arabian Nights.*

Can you find an example of Arabic writing in an encyclopedia?

You might like to make a border of arabesque designs for one of your notebooks.

If possible, take a trip to a museum to see damascene ware and lusterware. Your class might also be able to visit a store which sells Oriental rugs.

Build a castle out on your playground.

Make a picture collection of different pieces of armor.

Make a list of some of our rules today about how a gentleman and a lady should behave.

Find out what kinds of fertilizers are used in your community.

Decide whether or not members of your own class treat Jews fairly.

Make your own map of the trade routes of the Middle Ages. Use your scale of miles to judge the distances.

Find out what is done with the garbage in your city.

Count to see whether most of the buildings in your block or neighborhood are of wood or some other material.

Find out whether any buildings in your city use clusters of piers or pointed arches.

You may be able to find a phonograph record of a Gregorian chant.

New Languages in Europe

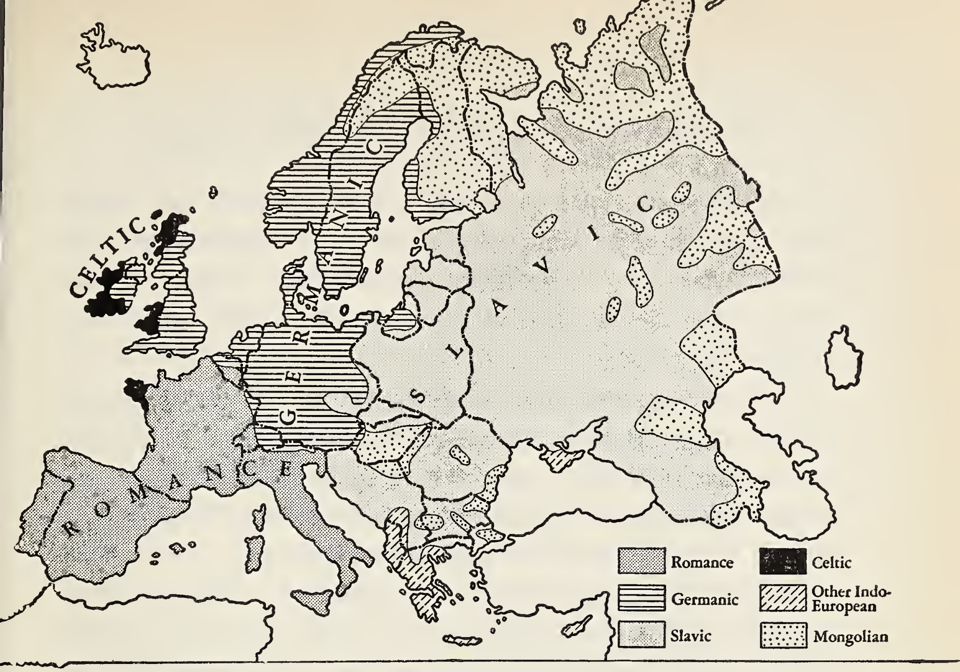
You already know that the Latin language was used and understood all over the Roman Empire. After that Empire ended, Latin was still used in the services of the Christian Church.

But the barbarians spoke different languages; many of them could not even understand one another. So during the early Middle Ages, changes in speech were slowly taking place everywhere. The younger people learned a mixture of their parents' language and Latin. Since Latin is very difficult to learn, they used only a part of it.

You remember, too, that there was little travel for many years after the end of the Empire. Each tribe settled down in its own part of the country and had little to do with the others. It is not strange, therefore, that the speech in each district became somewhat different from the speech in other districts. Even in our own country today the people of Georgia and Alabama do not speak exactly the same as the people in Maine or California or Montana.

Some sections had been the heart of the old Roman Empire. In those places more Latin words and forms remained than in the provinces farther away. These were the sections that later came to be called Italy, Spain, France, and Portugal. Therefore the languages that grew up in those places are called *Romance* languages. Perhaps you will study one of them someday. Do you know anyone in your community who can speak a Romance language?

The provinces that had been farther away from Rome had fewer Latin words. Their language had always been Teutonic, or Germanic, rather than Roman. In these frontier provinces grew up the different *Germanic* languages: German, Dutch, Danish, Norwegian, Swedish, and Flemish.



Principal Languages of Europe

Do you know anyone who can speak a Germanic language? English too is called Germanic, although it is very mixed.

A third great language family in western Europe was spoken by the people of Ireland, Wales, and Scotland. Those people did not at that time speak English, as they do today; their language was *Celtic*.

You know also that other tribes had settled down in eastern Europe. They were the Slavs. In eastern Europe therefore many *Slavic* languages grew up: Russian, Polish, Czech, Slovak, Serbian, Bulgarian, and others. Do you know anyone who can speak a Slavic language?

Today one of the hardest things that a traveler meets in Europe is the difference in the languages. Every few hundred miles that he travels, he finds the people speak differently. And that difference is one reason why they have always found it very hard to live and work together in peace.

Education in the Middle Ages

Very few of the people knew how to read and write. Very few wanted to learn. Boys who were to become priests were almost the only ones. They studied in the monastery schools, and those schools taught only the simplest subjects.

But, as the centuries went by, some of these students wanted to go farther. The schools did not satisfy them. So the few men who were wiser than the rest began to gather small groups about them and to teach. Then people flocked from all over Europe to hear them.

In Paris there was a group of such leaders. They decided to come together into a sort of union; it was called a *university*. This early university was more interested in religion than in anything else. Another one somewhat like it

A Class in a Medieval University. What Are the Men Writing?

grew up in Bologna, Italy. This second one was most interested in law. And you already know that there was a university for doctors in Salerno, Italy. These three made the beginning of the great universities that now are to be found all over the world.

Both teachers and students wore gowns somewhat like the priests'. Today many university students still wear the same kind of gown. They all studied and spoke the Latin language. The teachers explained the subjects, and the pupils wrote down what they said. These students were not boys—they were grown-up men. When they finished their study, they received a title—"Bachelor."

Those who studied still farther were given the title "Master." The highest of all was "Doctor." (This title was used for others besides those studying medicine.) Do you know anyone today who is studying in any university for one of these titles?

You must remember that there were universities in Moslem lands also. These were older than the universities in the West. Many of the Western teachers, in fact, had studied in Moslem universities, especially those of Spain.

Business in the Middle Ages

On pages 347–349 you read about how a medieval town looked. You found mention of workshops; but you found no mention of stores, such as grocery stores, meat markets, or shoe stores.

The reason is that there were no such stores. People then had to buy their supplies in a way quite different from our way.

How People Bought Their Supplies

A woman in the Middle Ages had to plan ahead better than most women do now. She could not send to the store a few minutes before a meal. And she did not even have canned fruit which she had "put up," although she might have pickles and preserves that she had made.

Where, then, could a city family get its food? For, of course, it could have no vegetable garden; and it did not own a farm.

One or two days a week were set aside in every town as "market days." At that time all the country people who had anything to sell, brought their goods into the town. They arrived very early in the morning. Each person had his own place given to him in the open square, or "market place."

All the vegetable-sellers were in one part. In another place, cheese and butter were set out on tables or benches. Flowers, wood, cattle, horses, ducks—each thing had its place.

The owners stood near by and called out their goods at the top of their voices. Some made up little songs about what they had for sale.

The townspeople began coming to the market as soon as the sun was up. Some carried their own baskets; others brought servants to carry home what they bought. What a good time they had! They walked about from stall to stall, looking at everything. They enjoyed trying to get a lower price from the sellers.

Here they saw many of their neighbors and stopped to hear the news. Nobody liked to miss market day.

You have already read about the great fairs that took place in some cities once or twice a year. Finer goods could be bought there than at the weekly markets.

How Goods Were Made by Hand

People who lived in towns were not nearly so independent as those who lived in the country. You have already seen that they could not grow their own food. Neither did each family make the shoes, cloth, or furniture that it needed.

Instead, each man spent his time doing the kind of work that he could do best—making candles, shoes, hats, suits of clothing, silver cups, and gold rings; or killing cattle, sheep, and pigs and selling the meat; or baking bread, preparing furs, weaving cloth, dyeing cloth, tanning leather, building houses, or any other task.

You can see that people who did such work were neither serfs nor nobles. They had no place in the feudal system at all.

Each kind of handwork managed its own business. All the men who made any kind of goods by hand formed their own group. Each of these groups was called a *guild.* There was a guild for every kind of work just mentioned, and many more. No one was allowed to do a certain kind of work unless he belonged to that certain guild. Those who belonged were called "masters of the guild"; they were very important persons indeed. Each group had its own building, or "hall," in which to hold meetings. Some of those buildings were very beautiful and costly.

At their meetings, the masters of the guild made rules about how their work should be carried on. Each of them owned his own shop. But no one expected to carry on his business in any way that pleased him. He had to obey the group rules and learn to co-operate.

Each guild decided what was a "just price" (a fair price) for its kind of work. Nobody might sell for more, and nobody might take less. The wages to be paid and the number of hours that men might work were decided by all the masters together. Then each member had to live up to what had been agreed upon.

A Row of Guild Houses. These Were in Brussels, Belgium

Ewing Galloway

The guild was very careful to see that each of its members did good work. No careless work was allowed; if a man did such work, he was put out.

But the guild had its bad points too. The members did not try to make as many goods as all the people needed. They did not try to sell at the lowest possible price. They would rather make only a few articles and sell them at a high price. So there were never enough goods to go around. The poor never could buy all that they needed. And prices were kept high.

How the workers were trained. A man had to be fairly well-to-do if he was to become a master of the guild. For a master had to keep up his shop, furnish all the tools needed, buy all the materials that he used, and support his helpers.

You already know that the shop was likely to be on the first floor of the master's house. There he would work in full sight of all the people who passed by. He liked to have people stop and watch him; for he was an expert artisan and was proud of his skill.

He made things "to order," as you have already seen the Egyptians and the Chinese doing. Almost always he had to give the buyers credit; very few people in those days paid cash.

Each master had several young boys with him; they were learning the trade. They were his *apprentices*. It took a long time for an apprentice to learn a trade—even as much as ten years. For he had not only to learn to do the work itself; he had also to be able to make all his own tools. There were no "ready-made" tools.

During all those years the apprentice lived in his master's house. He was given his food, and a new suit of clothes each year. But he was paid no wages. He worked from sunrise till dark.

After he had learned his trade well, he could leave his master. Then for several years he journeyed around the country, working for one master after another and learning still more. But now he could ask wages by the day. He could save what he earned, in order to set up a business for himself. During these years he was called a *journeyman.*

Some workers never were able to save enough to set up their own shop. Many, however, in the course of time, became masters themselves. To do this a journeyman had to be examined by the guild masters. Perhaps he had to make something before their eyes (his "masterpiece"). If it was well done, he was allowed to join the guild.

Under this plan you can see that the man who made the goods was the man who sold them. There was no need of such persons as our storekeepers of today.

The guild members were the only businessmen of the Middle Ages (except the peddlers and the Jews, who were not allowed to join any guild). They had to "keep books" in their business. The Italian cities taught them how to do it.

Improvements in Ways of Doing Work

The Middle Ages have often been called the Age of Wood; little metal was in use. Almost all the buildings, except the stone castles and cathedrals, were of wood. The furniture was of that same material and was put together with wooden pegs instead of nails. Even the tools and dishes were of wood.

But, as time went on, changes took place. Signs of improvement in ways of doing work could be seen here and there. For example, the spinning wheel came into use in Europe. It was brought in from the East. With its help more yarn and thread could be spun; then more cloth could be woven. People would not have to wear so much leather clothing.

Better Ways of Working in Iron

Little by little, men were improving their ways of working in iron too. In Spain they began to use a forge made of stones very tightly fitted together. Inside they placed a layer of charcoal and then a layer of ore, clear to the top. The draft for the fire came from a leather bellows at one side. The charcoal made a very hot fire. After the iron was melted, it ran down to the bottom and out through a hole. Such a forge could make a ton of iron a day, in place of five pounds a day by the older methods. Therefore more could now be had. Most tools could have heads of iron instead of wood.

The Germans learned how to pound the pigs of iron with a hammer that was run by water power. This hammer could beat out better wrought iron than men had been able to pound out by hand. It also worked faster; so there was more iron for artisans to use.

These people also learned how to pump water out of their iron mines. The pump was worked by men or horses. The miners could then get out much more ore. So the southern German states became the principal iron-mining part of Europe. But you must not think that iron at once became cheap. It was still scarce. Only parts of the tools could be made from this expensive material.

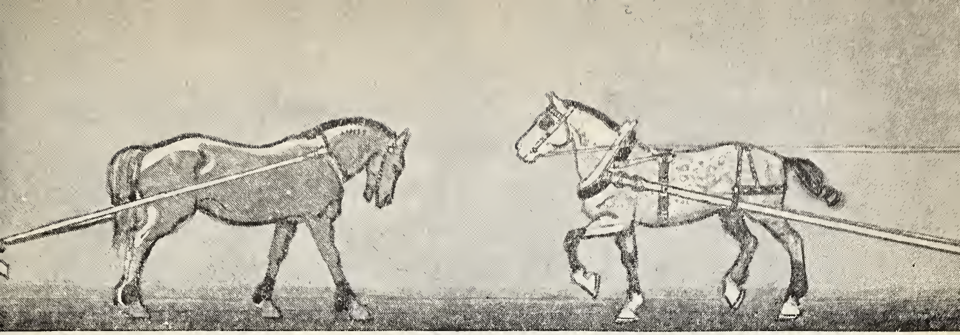
Steel in medieval Europe still came from the Moslem world—from the city of Toledo (in Spain) or from faraway Damascus. It cost a great deal indeed, and could be used only for weapons and armor.

How to get wood enough to make charcoal for so many blast furnaces was already a problem. Too many of the forests were already being cut down. As early as the fourteenth century, men were asking themselves what they would do when the rest of the forests were gone. No one knew the answer. The use of coal as a fuel had not yet been learned.

The Growing Use of Power

In Unit One you found that men had learned very early to use animals as power. In the Middle Ages some changes were made that helped animals to work better. One was the use of horseshoes. These iron shoes nailed to his feet helped a horse to get a firm grip even on rocky ground. He could pull harder without slipping. Such iron shoes did not hurt his feet. Instead, they kept his hoofs from splitting painfully.

Harness was also improved. In early days the straps of a horse's harness passed around his neck. When he pulled



Why Is the Harness at the Left Not So Good as That at the Right?

hard, they cut off his wind. Now he was given a heavy collar, and the principal strap was made to pass across his chest. This kind of harness did not stop him from breathing. He could pull a heavier load more easily. So horses began to take the place of donkeys in carrying packs and in pulling carts.

Another form of power that men had known for a long time was the wind. In the Middle Ages windmills came into common use in Europe. They pumped water and helped to drain fields. They also turned grindstones which ground grain. Such a mill could do as much work in one hour as five to ten horses. So it was said to have either five or ten *horsepower*. (Do you know how much horsepower your father's automobile has today?)

Both animals and wind help man to work; they are good forms of power for him to use. But it costs a good deal to feed animals; and the wind does not blow all the time. Could some kind of power be found that would be cheap and steady?

Men had long noticed the great force that running water has in waterfalls and rapids. Some of them tried putting a wheel with many paddles into a stream where the falling water would strike. The force of the water kept the wheel turning around. This turning wheel could then be used to turn grindstones. The stones could grind grain into meal or flour. (See the picture below.)

Such a *water wheel* would work much more steadily than a windmill. It was the best form of power that the Middle Ages had. With its help grain could be ground faster than ever before. Do you wonder that the Middle Ages have also been called the Age of Water?

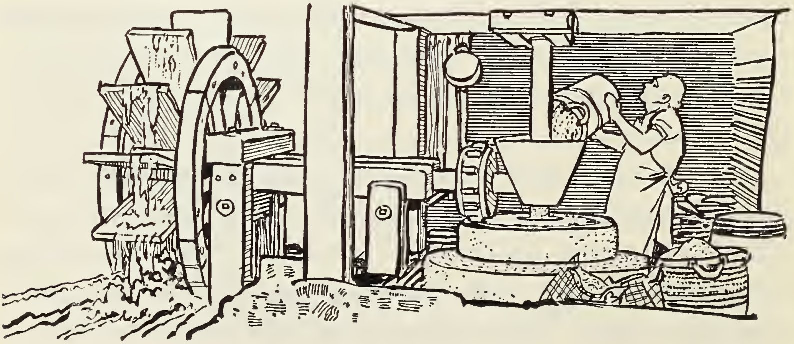
Clocks, Printing, and Spectacles

A strange change that nobody had expected came out of life in the monasteries. Always before, people had risen at daybreak and had gone to bed at dark. In between, when they wanted to know what time it was, they had looked at the sun. Few sundials were in use, and still fewer water clocks.

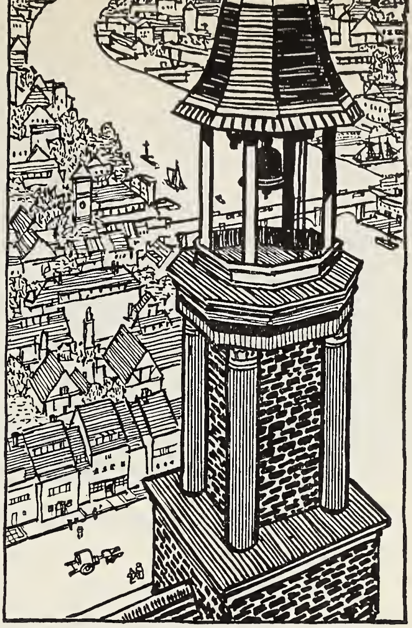
In the monasteries, however, church services had to be held seven times a day. A great bell was to be rung for every service, to let all the monks know that it was time to pray.

How was the bell-ringer to know when the time had come for him to ring? Someone solved that problem. Maybe he

A Water Wheel. Can You Explain How It Will Turn the Grindstone?



watched a windlass winding and unwinding at a well. At any rate, he wound up a chain with a heavy weight at one end. The chain was made to unwind itself very slowly. As it turned, a cogwheel caught and held it for a few moments. That is still the way in which a clock with weights works. The distance that the chain was allowed to drop could be measured off into hours.



A Bell Tower. The Bell Strikes the Hours

Then a clockface was added to the machine. A "hand" moved as the chain turned; it pointed to a figure on the clockface. There were twenty-four hours marked on the face rather than only twelve. Even today some countries still use that same plan. Their people do not use the letters A.M. and P.M.; instead, they count 6 o'clock or 18 o'clock or 24 o'clock. When they speak about 8 o'clock they always know that it means morning, not night.

Every time that the hand of the clock pointed to another hour, the great bell in the tower of the monastery was struck. That was a good way to tell time. Serfs working in the fields began to listen for the hour bell. They began to plan their work by it.

Bell towers were built in the towns, too, and people everywhere began to "live by the clock." The clock told them when to get up, when to eat, when to stop for the day, and when to go to bed.

Our world has been living by the clock ever since. Everyday life is timed for us by little black hands moving across the white face of a dial. "Time is money," people say nowadays. That never used to be true.

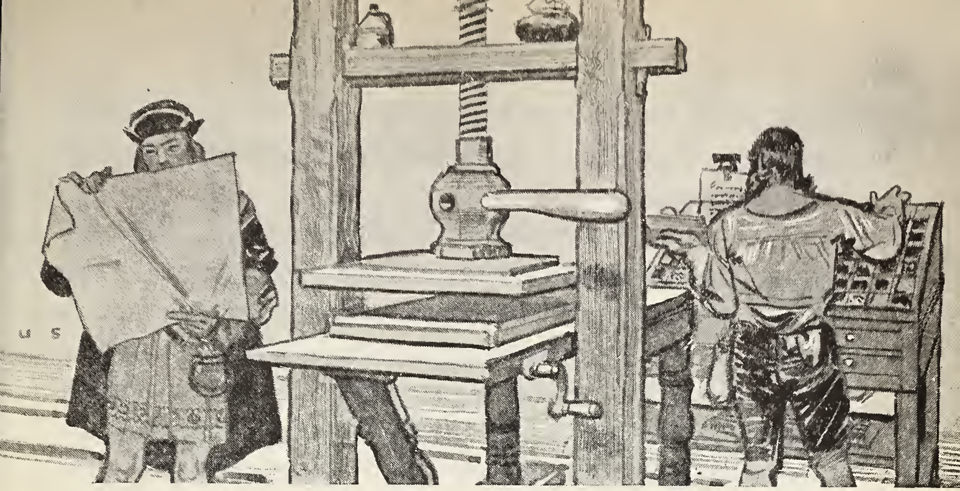
Another change was made in the Middle Ages. It was of great help to people who do not see well. It had to do with glass. For a long time some wise persons had known that clear glass with one curved side could be made to do tricks. If the side curved outward, that made an object seen through it look smaller, and therefore farther away. If the side curved inward, it made an object look larger, and therefore nearer.

Someone in the Middle Ages thought of putting curved pieces of glass in front of the eyes. They would help a person to see either farther away or nearer. Such pieces of glass were put in a metal frame; they were called *spectacles.* What a help they were to many people!

So many spectacles would not have been needed if another discovery had not taken place at about the same time. That discovery was a better way to print.

You remember that the ancient Chinese had known how to print with blocks. Many other people had learned how to do this, too. But such work takes a long time. Maybe you have used that kind of printing set; you know it takes a long time even to print your name. And it is hard to keep the letters even.

In the fifteenth century a better way was found. This time the letters were made from metal rather than wood or stone. The plan was as follows: First a mold was made for each letter; then it was filled with melted lead. When the metal cooled, the mold was emptied. Out came a perfect *A*, or *B*, or *C*. Each mold could be used over and over again; dozens of each kind of letter could be made, both



Printing after the Printing Press Was Invented. Can You Explain the Picture?

capitals and small letters. All the *A's* were put in a box by themselves; all the *B's* in another box; and so on.

A man who wanted to print a page would begin in this way: From the boxes he would select the letters needed for a word. He would set them up along a line. Then he would pick out enough letters for the next word and set them up. When he reached the end of a line, all those letters and words would be locked or clamped into place.

Then he would do the same thing with the next line. At last he would have a whole page set up. He would ink the metal letters for the page with a big bag or roller of ink. Then he would spread a piece of paper over the whole thing. He would press it down hard over the metal letters with a screw. Then he would turn the screw back again and pull off the sheet of paper. The whole page would be printed plainly on it.

This was called printing with *movable type.* All the little letters would then be unlocked. The *A's* would be put back in the box of *A's*; the *B's* in the *B* box; and so on. They could be used over and over again.

Printing with movable type was much faster than block printing. Therefore it was cheaper; books could be sold at a lower price.

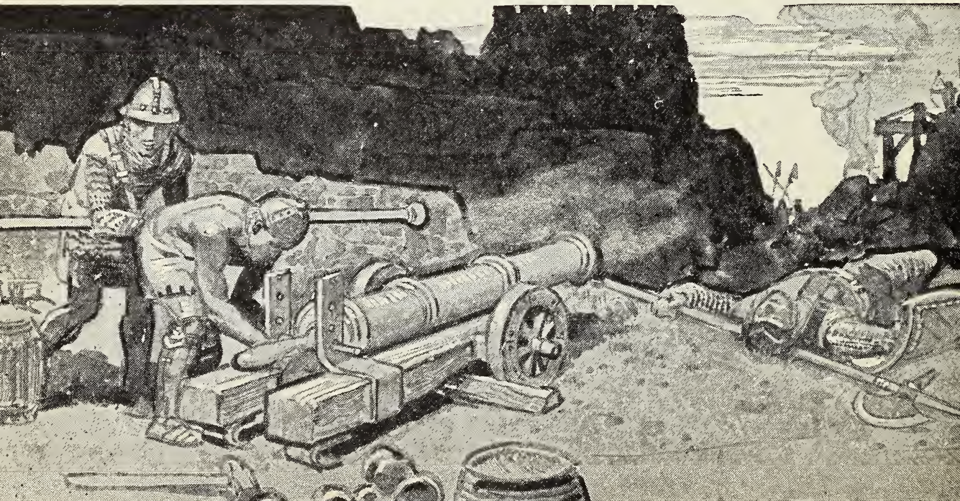
Then an ordinary man could afford to buy a book. Libraries no longer needed to fasten a great chain to each book so that no one would steal it. More people would now learn to read. (And more would need spectacles!) Whenever a man had a new idea, he could tell the world about it. New ideas would spread faster. Change could take place more rapidly because of this wonderful new invention.

Gunpowder and Guns Blow Up the Old Ways of Living

For centuries the Chinese had known the use of gunpowder (see page 201). Near the end of the Middle Ages the Moslems brought the knowledge of this powder to Europe.

The warlike peoples of Europe at once saw that a new use could be found for the material. It could be made to fire an iron ball or shot from a gun. So they set to work to make guns strong enough to use such balls, shot, and powder. The large and strong guns that they made were called *cannon.*

Cannon Breaking Down the Walls of a Castle



At first only large cannon were used in war. Then ironmasters learned the harder task of turning out small guns too. After that, each soldier in an army could be given a gun of his own.

What surprising things followed! People discovered that cannon balls and bullets could cut through armor. Armor became useless. Nor was a castle a safe place any longer; for cannon balls could break a stone wall down.

In this kind of war, knights found that they were no better soldiers than any common person. The highest lords in the kingdom might easily be shot by the poorest serf who had a gun. What a blow that was to the proud lords! The time when any noble was considered better than any member of the lower classes was drawing to a close. That meant that the Middle Ages were coming to an end.

Thus the use of gunpowder and cannon helped to make the different classes of people equal. One man behind a gun was equal to any other man behind a gun, no matter whether he was high-born or low-born. The feudal system could no longer be kept up. It began to fall to pieces. The end would take centuries; but it was sure to come.

East and West Clash Again

Now we must go back for some centuries. Twice already in this book you have seen the East and the West fighting to the death. The first time was when the Greeks fought against Persia to keep their freedom. The second time was when the Moslems seemed to be ready to conquer all Europe. You remember that they had taken all western Asia, northern Africa, and most of Spain. Then their world had broken into several parts.

Turks and Christians in the Near East

By the year 1000 the Moslems were again on the march. Just before, a new and strong tribe had come out of central Asia, that ancient homeland of the peoples. These were the Turks. They were good warriors, but backward in civilization.

The Turks fell in love with the high civilization of the Moslem world. They took on its ways of living, its inventions, its religion, and its art. They also fought its enemies. They took the Holy Land, and every year moved nearer to the Byzantine Empire.

The Byzantine Empire was by now very old and weak. It could not stand against the Turks. It called upon western Europe for help. Those were the days when the feudal system of western Europe was at its strongest. So the nobles felt that their hour had come; the West might at last strike back at the East. The Christian Church was glad to take the lead in a struggle against Islam.

So leaders of the church and the feudal lords set themselves the task of gathering together great armies for a new war. These armies, they hoped, would break the power of the Turks and would take back the Holy Land from them. Such a war for a holy purpose is called a *crusade*.

All over western Europe, groups of armed knights on horseback began to gather in the larger towns. They were excited and eager for adventure. Many had never before been more than a few miles away from home. They had no idea of the hard task that lay before them. They did not even know just where the Holy Land was. But they were sure that God wanted them to attempt to take it. To show that they were fighting for their religion, each one wore a large cross on his chest or over his arm.

As soon as a large enough group had gathered in any one place, it started for the Holy Land. The first group set out in the year 1096. Some went overland along the northern Mediterranean. Some went by sea from the Italian cities to the Near East.

All suffered greatly on the overland journey. There were cold mountain ranges to cross and rivers to ford. Then the hot, dry lands of Asia Minor wore down the strength of both men and horses. Many fell and could not rise again. Fighting took place all along the route.

The ships fared no better. They had not enough supplies for the long voyage; men went hungry. Some ships were wrecked. Others were taken by pirates, and the men were sold as slaves.

But the hard times of the first groups that set out did not stop the "soldiers of the Cross." Other groups met better success. Their armies took the city of Jerusalem and were able to hold it for years. Many settlements of Christians were made in the Near East.

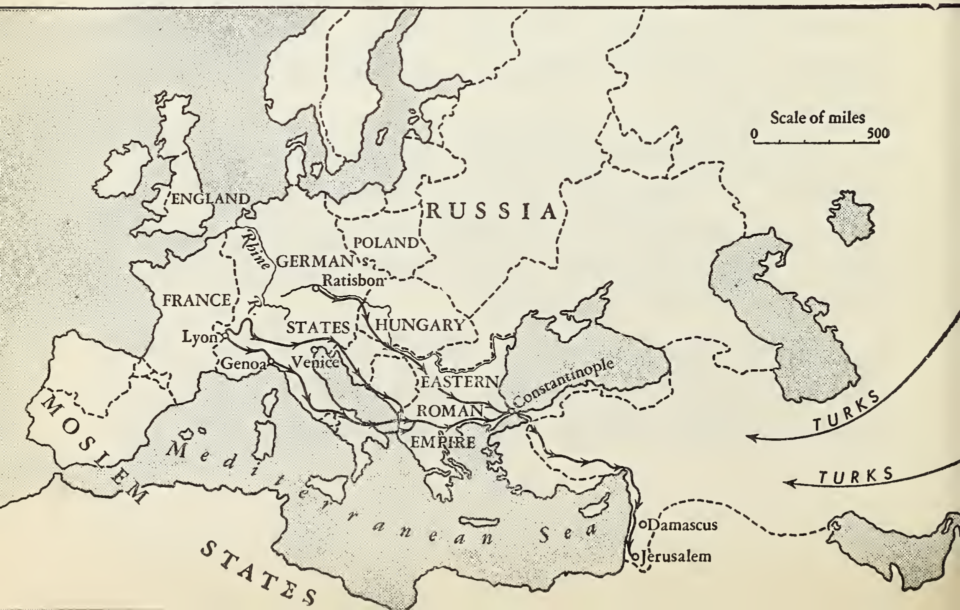
During these years the Crusaders learned many things from their Moslem neighbors. They learned to enjoy new foods: oranges, lemons, plums, watermelons, rice, sugar, ginger, pepper, cloves. Few of them had ever tasted such things before.

They also learned to dye their plain woolen clothes all the colors of the rainbow. Some were able to wear silk. They began to eat from china and glass instead of wood and pewter. They learned to use mattresses on their beds. Do you wonder that they would never again be satisfied with the old life in their bare castles at home? Do you wonder that, when they returned, they were determined to carry on more trade with the East? But that story belongs in another book.

The Christians were not able to keep the Holy Land for long. They could not bring from Europe, year after year, all the soldiers that were needed to hold it. And the leaders quarreled among themselves. Little by little the Turks took back all that had been gained.

In 1453 the great city of Constantinople itself was captured by them. The thousand years of the Byzantine

The West Strikes Back at the East



Empire came to an end. Ever since, the Turks have held Constantinople; today they call it Istanbul. They have also spread widely through the Balkan Peninsula; many are there to this day.

Other Asiatic Tribes Break into Eastern Europe

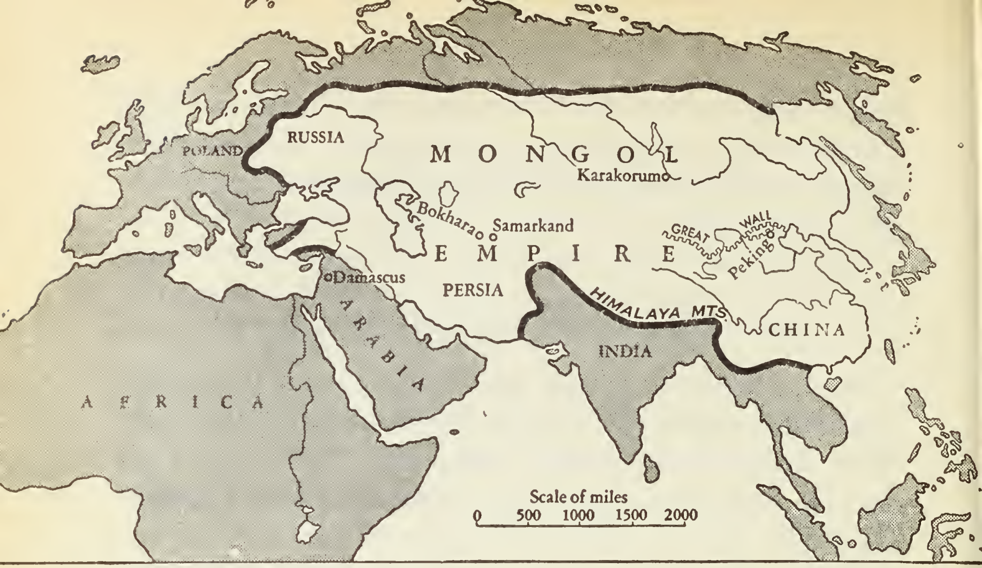
Meanwhile another tribe had appeared out of the ancient grasslands in Asia. These were the fierce Mongols. They were a cattle-raising people. They very often moved their herds and their wool-felt tents from one pasture land to another.

Their great leader, Genghis Khan, saw that his people were much better fighters than any of their neighbors. So he too decided to rule the world, as Alexander the Great and the Roman Caesars had done. He very nearly succeeded.

From the Great Wall of China through all central Asia, down to the Himalayas on the south and Persia at the west, he spread his empire. He broke into northern China; but the peaceful ways of the people there could not satisfy him. He loved fighting with a fierce love; so he went back to his desert capital at Karakorum.

Then he turned westward. He wanted the rich caravan trade that for centuries had been bringing Damascus-steel swords and armor across the desert. He captured the old trade routes and destroyed the ancient trading cities of Bokhara and Samarkand. They never again grew up to their old size. Genghis then held the largest empire that the world had ever seen ruled by one man.

Mongol followers of Genghis Khan moved on westward against Russia. Wherever they passed, nothing was left alive—even the grass was burned black. They reached



The Huge Empire of the Mongols. Notice that Russia Was a Part of the Asiatic Empire

Poland and the German states, whose people cried, "They hope to destroy the rest of the human race."

But the Mongols did not want to go farther west. They liked broad, windswept plains best. So, of all Europe, they held only Russia; for three hundred years they kept it. During all that long time Russia was cut off from western Europe. Of course it was "behind the times."

Therefore it is not strange that Russia was little like western Europe. It was much more like Asia in its ways of life. To this day it is almost as much Asiatic as it is European.

But the next great Mongol ruler, Kublai Khan, was very different from Genghis. He did not like the wild ways of the open plains. He admired the old and wise civilization of China. So he built himself a new capital city at Peking and turned his attention to the Far East. The great empire of Genghis Khan then broke up. Europe was saved from the Mongols.

Settling the Islands of the Pacific

In the early pages of this book you read about how the races of men had long ago streamed out from central Asia. (See pages 34–36.) You have followed the story of those who went to the west, to the south, and into China at the east.

The map of the Pacific (page 383) shows you a great number of small islands scattered about in this enormous ocean. Did primitive men find their way so far across the wide waters? Were they able to cross such great distances?

We know that they did reach the islands, but we do not know how they did it. They left no written records, and the story of the voyage has long since faded from the minds of their children.

Of the ocean area, the easiest part to reach was that which is marked on the map *Melanesia*. Perhaps the people who reached this part came from the coast of Asia just south of China. They were dark-skinned: some were very black; some were only copper-colored. Most of them had fuzzy hair. The word Melanesia itself means "black islands." Perhaps you have seen motion pictures of life on some of these islands, such as Fiji or New Guinea (Papua).

These wanderers kept up their old life in tribes. The men lived in a huge clubhouse called the Men's House. (Look at the picture, page 384.) There they enjoyed their many secret clubs and their study of magic. They fished and made war. The women and children lived in little huts. They raised the crops, picked the fruit of the breadfruit trees, and wove mats for the walls of the houses.

North of Melanesia is an enormous sea area with tiny scattered islands. This area is called *Micronesia*, the "small islands." The United States has owned some of them—

Guam, for example. Our great clipper planes have landed there on the way to China and the Philippines.

The people on these tiny islands are a little lighter-colored than those of Melanesia. Their color is from brown to yellow. Some of their fathers probably sailed out into the ocean from China. They must have been fine sailors; for they even made maps and charts showing the shallow waters and the places where there were high winds.

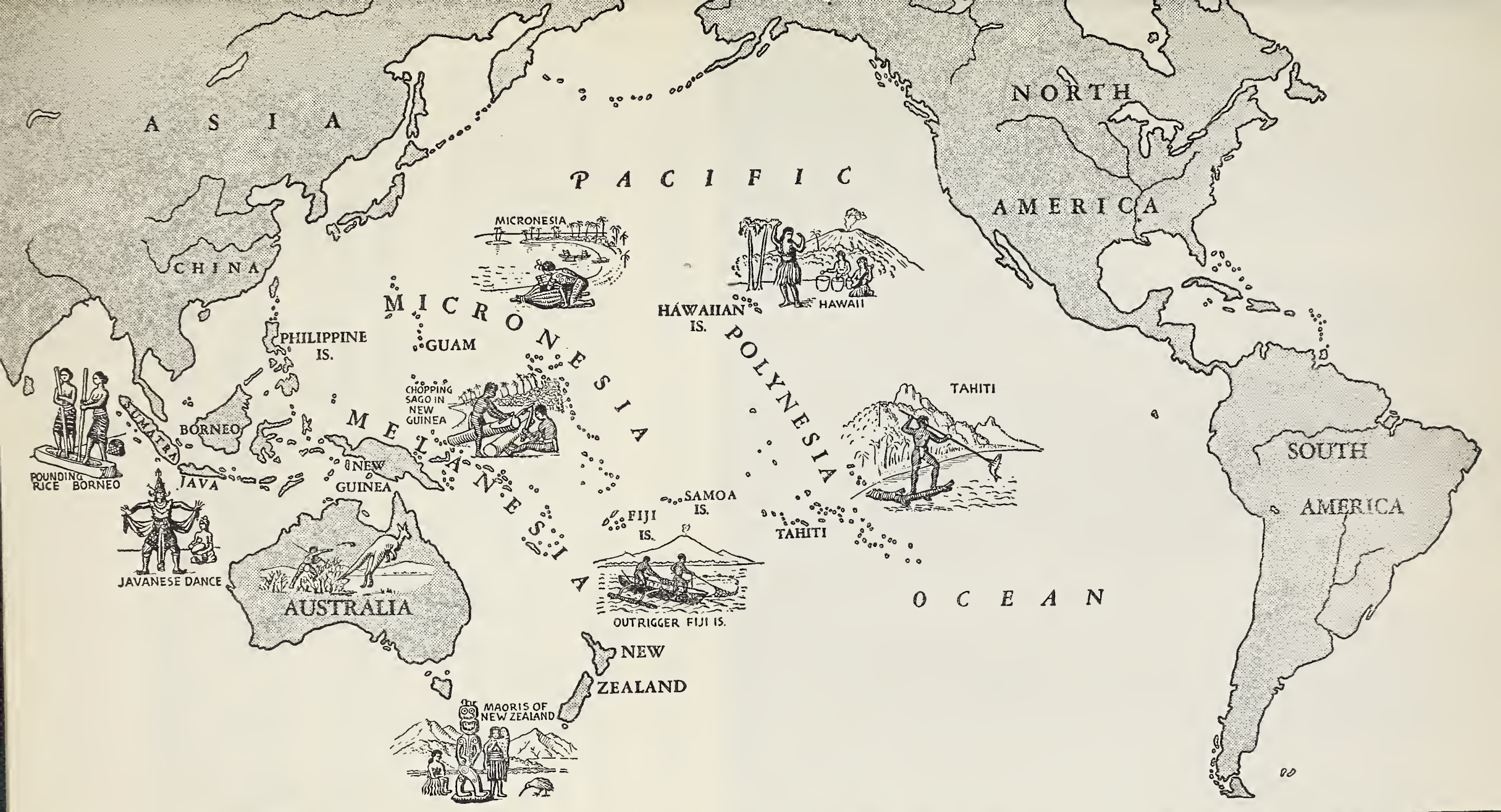
Today the people in Micronesia love to cover their bodies with tattooing. Their daily life there is about the same as in Melanesia.

Over a still wider part of the Pacific stretches the area known as *Polynesia*, or "many islands." Two of them that you may have heard about are Hawaii and Samoa. How primitive people in their open boats could ever have sailed so far we cannot possibly understand. From Tahiti to Hawaii is 1750 sea miles. But dark-skinned sailors were probably making this voyage even before the birth of Christ.

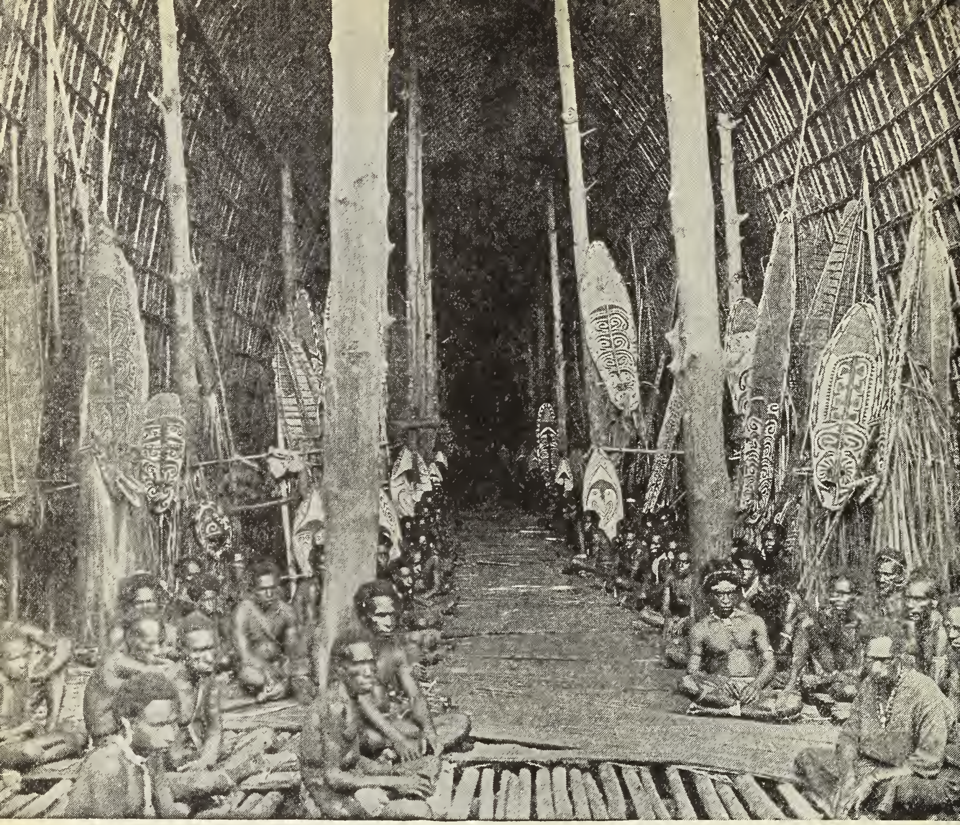
Life was easy in Polynesia. For food there were wild fruits, especially coconuts, and dozens of kinds of fish. Clothing could be made from the bark of trees. Much time could be spent in singing and dancing and enjoying life.

Art in the South Sea Islands. Art was an important part of the daily life in all these groups. What they liked best was wood-carving. The men carved the posts of their clubhouse. They carved the tall, curved ends of their canoes, their chests and boxes, their paddles and clubs, their cups and bowls made of coconuts or gourds. Since they had no metals, all such work was done with stone knives.

The South Sea Islanders never discovered how to weave; but they made "cloth" from the inside bark of trees. Strips



The Settling of the Pacific Islands. Can You Explain the Pictures?



Inside the Men's House. Why Is Such a Large Building Needed?[1]

of this bark were soaked until they were soft; then they were pounded out flat. The pieces were then laid side by side with edges overlapping. They were pounded together and made into long sheets. Such *tapa* cloth would wear very well indeed if it did not get wet.

Dancing was one of the principal amusements. It was also a part of the religion of the group. The people of these faraway islands lived their own life, century after century. They knew nothing about Asia, Africa, or Europe. And those places knew nothing about them.

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[1] From *Pearls and Savages*, by Captain Frank Hurley. Courtesy of G. P. Putnam's Sons.

Who Were the First Americans?

You have now read about how people wandered into Africa, Asia, Europe, and the islands of the seas. You have read nothing about America. Did any of the early tribes reach our own lands?

Again it is hard for us to find out just what happened. No written records were kept in those far-off times. Scientists of today, however, believe that the first people in America came from Asia.

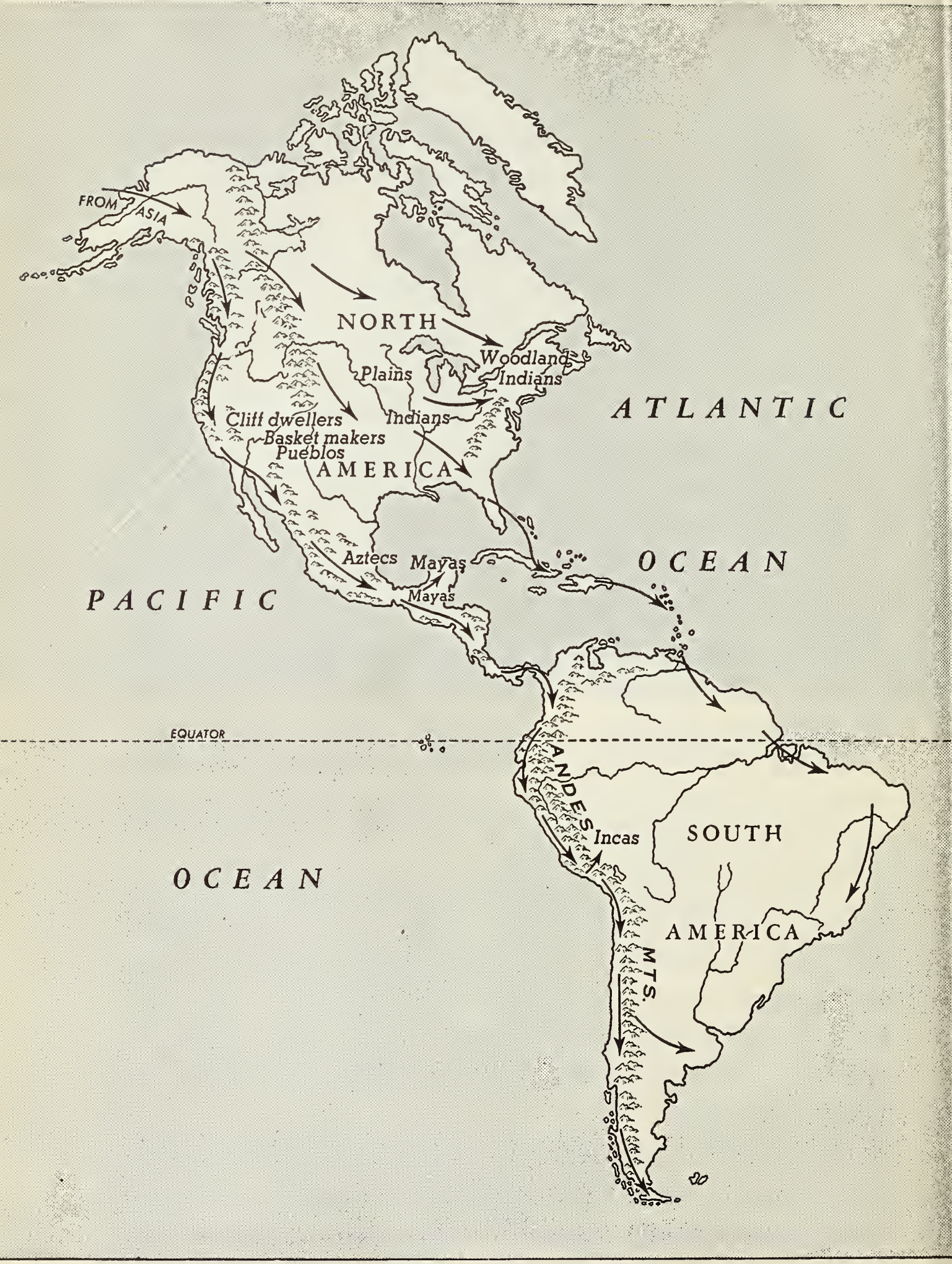
Do you have a globe in your room? If so, find the place where Asia is closest to North America. You can see a string of islands between the two continents. It would not be hard to pass from one to the other.

Scientists believe that some tribes from the heart of Asia wandered northeast to the coast. They built little boats from the skins of animals. From these boats they fished and they hunted seals. They must have lived much like the Eskimos of today.

On these fishing trips they touched at island after island. Then they found themselves on the shore of a great continent; it was North America.

There were eight such groups in all. Some of them followed the coast eastward and came down on the eastern side of the mountains. They followed up the great rivers and spread all over the center of the country. Those that lived on the plains came in time to be called the Plains Indians. They made their pointed wigwams out of the skins of animals.

Those that wandered still farther east into the wooded parts came to be called the Woodland Indians. You read many stories about them when you were in the primary grades.



The First Americans

Other groups, when they came from Asia to Alaska, kept close to the coast. Year after year they wandered farther southward. Some of them also climbed up into the valleys between the mountains; there they felt safe. You may have read about these tribes. We call some of them "basketmakers"; others, "cliff-dwellers." Later groups built large clay villages, or "pueblos." You probably have read many stories about them too. All of these people lived in about the same way as men of the Stone Age, about whom you read in Unit One.

As the centuries went by, some of the wandering groups reached Mexico. Others went on into Central America. Some entered South America too. The population was not very thick in any of these regions; but America was settled at last.

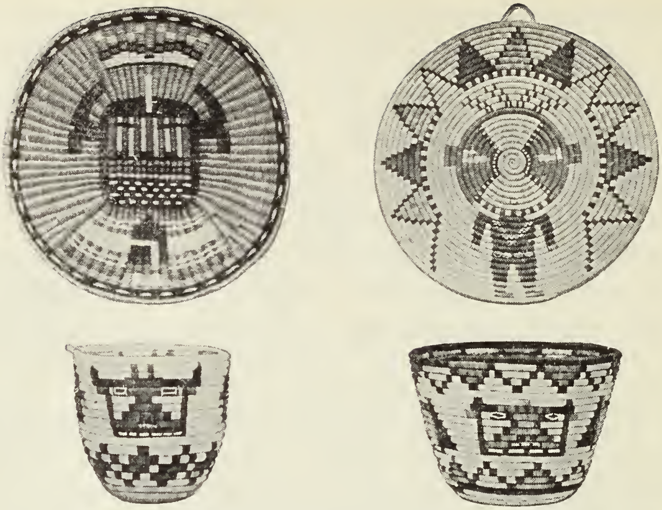
Arts of the Indians Living in What Is Now the United States

In the southwestern part of what is now the United States, basketmaking became an art. The Hopi, Pomo, and Pima Indians made the most beautiful baskets of all the tribes. The strong, tough desert plants furnished the materials. Roots, bark, berries, and minerals in the soil furnished the dyes. The baskets were used for storing food.

Every design that the artist used had its own meaning—for example, the snake, the lightning, and the rain. The artist did not like to make any two things the same.

Pottery also was made in the Southwest, where jars were needed for storing water as well as food. Both the coiling plan and the building-up plan were used. (See page 69.)

Most of the Zuñi and Hopi pottery was a soft tan with red, brown, or black decoration. And especially beautiful were the shining black pieces from San Ildefonso.



Museum of the American Indian

Baskets Woven by the Hopi Indians

The weaving of cotton was known, too; but there were no sheep in the country, and therefore there was no wool.

"Sand painting" was an art widely used in the religion of these Indians. The artist smoothed off a place on the ground for his picture. Then he took sand of different colors and sprinkled it about in designs. Each of the designs had a religious meaning. As soon as the ceremony was over, the "painting" was destroyed.

Pottery Made by the Indians of San Ildefonso

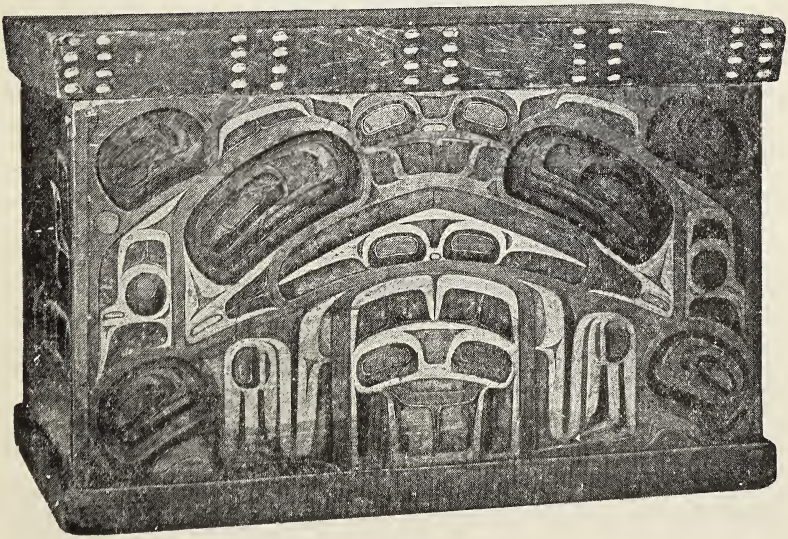
Museum of the American Indian

Farther north the Plains Indians had few arts. Some of them painted the skins of their tents with scenes from their battles. And they made shells, animals' teeth, and colored stones into necklaces. Any great amount of beadwork, however, was not common until after the coming of the white men.

In the Northwest the Indians were famous wood-carvers. With their stone axes they cut down great trees and made boards. From these they built their houses and their canoes. The doorposts of the houses and the ends of the canoes were deeply carved with animal and bird designs. You may have seen a picture of a totem pole; it served in somewhat the same way as a knight's crest. And spoons, bowls, plates, clubs, and chests to hold the family's extra clothing—all were beautifully carved.

A Carved Wooden Chest. This Work Was Done by Indians of the Northwest

American Museum of Natural History



The Indian arts almost died out during the first centuries after the white men came to America. In later years, however, we have begun to understand and like them. Nowadays many young Indians are beginning to carry on once more the beautiful arts and handwork of their fathers.

A Great Civilization Grows Up in Middle America

The region in between North America and South America is often called Middle America. Wandering tribes had reached this region as well as the other two.

One such group was known as the Mayas. They lived in Central America. Century after century they raised crops of the tall grass with a heavy head that grew in their country. Always they "crossed" the best plants in order to get a larger "head." (Perhaps your science teacher can show you how this was done.) At last they succeeded in growing a plant that had a very large head of grain indeed. Today we call it *maize* or *corn*.

Large crops of corn could be grown in the rich soil of Middle America. There was enough to feed many people. The Mayas, therefore, did not need to wander about, hunting and fishing, as did other tribes. They could settle down in large villages.

They raised beans and squash as well as corn. They had pineapples and tomatoes. They used chocolate and tobacco. None of these things were known at that time to people in the rest of the world. And they tamed the wild turkeys of the region.

Since the Mayas lived close together, they had to learn to co-operate. One of the best ways to learn was the same plan that was used in Egypt and Babylonia—the building of irrigation ditches. Irrigation was needed for the crops of corn, for not enough rain fell in the dry season.

No one person was allowed to own land among the Mayas. The use of the land was given out to the different families at a meeting of the whole village. Such a meeting was held every year. The leaders of the groups were called chiefs; but the real rulers were the priests.

The Mayas had no beasts of burden (animals to carry their loads), and they never learned the use of the wheel. But with only men and women as power, they were able to build enormous works in stone.

Since they were much interested in religion, their chief buildings were temples. These temples were placed at the top of enormous pyramids, somewhat like those of the Egyptians. All around each pyramid was a large open square of buildings in which the priests lived.

The stone railings and the beams in these places were carved with the favorite Mayan design, a feathered serpent (snake). The bird part of this creature stood for the wind and the sky. The serpent part stood for the rain.

Color was used freely everywhere. It too had a meaning. Blue was for the sky; yellow, the sun; green, the sea; and red, war or blood.

The metalwork of these people was of the finest—gold and silver hammered, molded, and carved. They also cut some of the hardest stones, such as obsidian, rock crystal, onyx, and turquoise. They carved them in designs and set them in gold. Such pieces were used in rich necklaces, bracelets, and rings.

Music was used in all the services of religion, and everyone took part in the dances.

Religion was so important a part of life that the time of the different services had to be very carefully figured out. The priests therefore became very good scientists. They made a calendar that was the best in the world at that time. It had eighteen months of twenty days each, with five days at the end of the year for religious ceremonies. It served the Mayas well for two thousand years.

They could tell when eclipses of the sun and moon were to come. They even knew the length of the year on the planet Venus. They used the zero in their arithmetic centuries before the Hindus did. And they had a system of writing. You can see that they must have been a very bright people.

The Mayan civilization had begun many centuries before Christ. In about 500 or 600 A.D. the people left Central America and moved to Yucatan, in what is now Mexico. Just why they did this, we do not know. Was the soil worn out because fertilizer was not used? Had so many trees been cut down that the topsoil was washed away? Was there a great war or some terrible disease? We cannot tell.

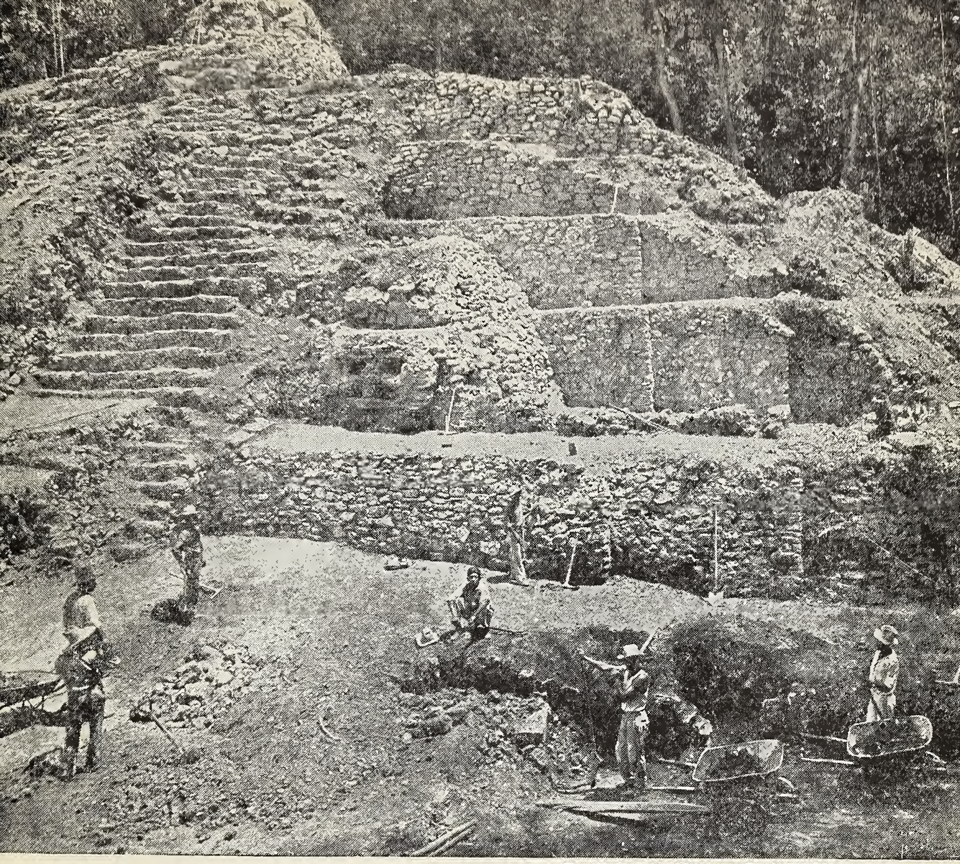
Scientists today are working very hard among the ruined cities in Central America. Someday they may find the answers to these questions for us.

In Yucatan the Mayas built up another great civilization, much like the older one. They put up great pyramids and buildings. They carried on trade far and wide. They spread many of their best ways of living into other parts of Mexico, and on into what is now the United States.

In the thirteenth century A.D. the Mayas were conquered by a more warlike people from the high plains of Mexico. They no longer were the rulers.

The newcomers, however, had deep respect for the Mayan way of life. They followed it as well as they could.

But what one warlike people had done, another could



The University Museum, Philadelphia

Scientists Digging Out a Temple of the Mayas. Can You See Where They Have Uncovered Walls, Steps, and One Carving?

do, too. So a second tribe of warriors conquered the first. These were the Aztecs; they had a leader called the Montezuma.

The Aztecs built their capital city on an island in the midst of a great lake. Today we call the city that is there Mexico City. They also made garden spots, with canals as the streets. Today travelers come from all over the world to see these floating gardens of Xochimilco.

The Aztecs were still living and ruling in Mexico when Columbus discovered America.

The wandering tribes had not all stopped when they reached Mexico or Central America. Some had gone on down along the west coast into South America. Some had crossed from Florida, from island to island, until they reached the east coast of South America. Others may have come in their canoes from the faraway islands of the Pacific. Each of these tribes chose its own part of the country and settled down. Many learned a great deal from the Mayas. (See the map on page 386.)

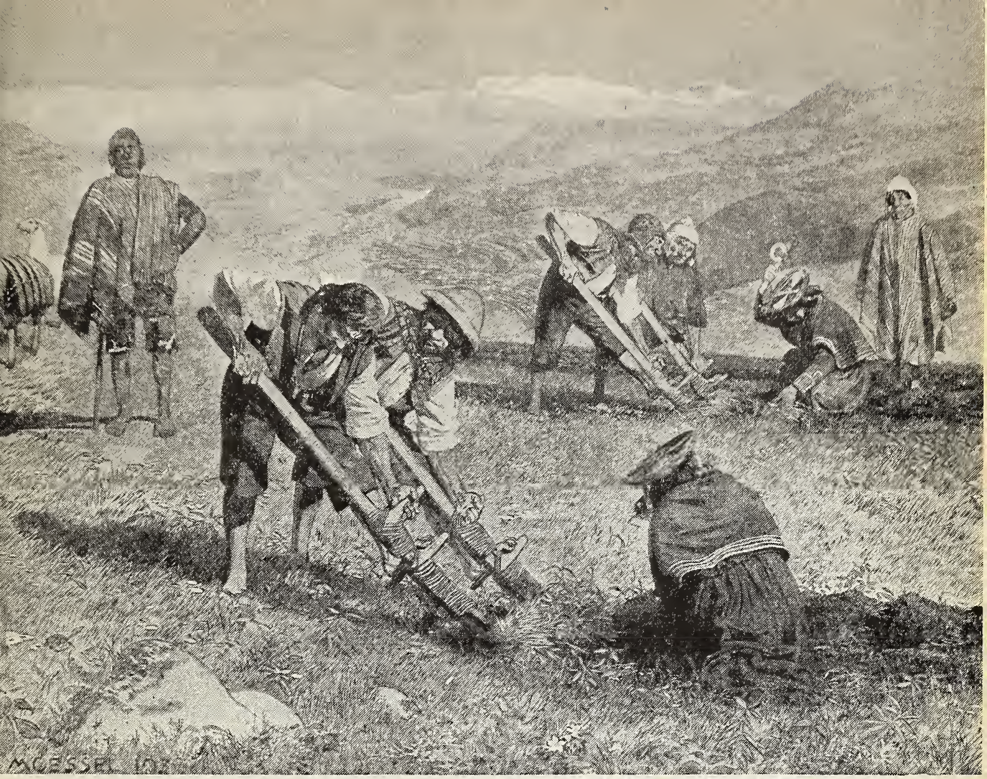
Along the Pacific coast of South America some tribes remained near the ocean. These became skillful potters and did very fine weaving of textiles.

In the high valleys of the Andes Mountains, in what we now call Peru, another tribe was more daring. They cut enormous blocks of stone from the mountains. With these blocks they built huge works that can be compared only to those of Egypt. Many of the ruins remain today. We can see that their cities had drains and fountains. Some of their canals ran through mountain country for several hundred miles.

In time these great builders were conquered by another group whose leader was called the Inca ("the Child of the Sun"). So the people themselves are often called the Incas, too.

This new group spread their power over most of western South America. They even crossed the Andes to the plains that we now call Argentina.

From their neighbors this new group soon learned the Mayan ways of living. But the South Americans also made a great addition of their own to the world's food supply. They grew the plant that we call the potato.



Field Museum of Natural History

Planting Potatoes in Peru Today. The Men Are Using a Foot-Plow to Get the Soil Ready. The Women Turn the Sod Over

With such sure food supplies as corn and potatoes, the Incas were able to settle down, as the Mayas had done. They built up a large population.

No family was allowed to own land; but the State gave homes and food to everyone. Every ten families had a leader. For every fifty of such groups there was another leader; for each hundred, a third; for each thousand, a fourth; and so on. At the top was the Inca himself, with his helpers.

The higher leaders made all the plans. They sent orders down to the other leaders, and these gave them to the people. The people were told exactly what to do at all times—where to live, what to plant, and how to build. They were even given their food every week.

No one was ever allowed to starve. But no one was ever allowed to decide matters for himself, either. When the time came that the white men fought the Incas, the people had to depend entirely on their leaders for the orders to follow. They did not know how to think or plan for themselves. When the leaders were once captured, the rest of the army was helpless. Do you think that plan was a good one?

Today there are some persons who believe that all people need in order to be happy is plenty of food, a place to live, a job, and a good leader. Such people should study the history of the Incas. The Incas had all those things, but they could not save their country. A more *democratic* way of life would have made the common people better able to defend themselves.

In the arts the Incas made great advances. Their weaving was especially fine. They used the soft wool of animals named the llama, the alpaca, and the vicuña. Their designs were perfect in form and in balance. Many of their fabrics can be seen in museums all over the world today. They were found wrapped about the mummies (for the Incas, like the Egyptians, made mummies of their dead).

They also made fine pottery and beautiful metalwork in gold. Gold, however, was not used as money among them; it was only for decoration. Barter was the usual form of exchange.

Music was an amusement they liked very much. And the storytellers in each village could repeat long poems about their country's past.

The Incas made roads to all parts of their empire. Relays of messengers could carry news or orders from Cuzco, the capital, to faraway places in a short time. Careful records were kept in the capital about the crops in every part of the country. To help them count the very large numbers that were needed, the priests kept bundles of cords. The number of knots tied in the cords stood for 10, 50, 100, 1000, and so on. Different colors of cords were used to stand for different numbers, too.

Under this completely planned government the Incas lived for centuries. No one was hungry; everyone had his own work. There were holidays for pleasure, and great feasts in honor of the gods. Life went on peacefully in the main—until the white men came. But that is a story for another book.

Now you have in your mind's eye a general picture of the world. You have seen the early beginnings of the world's work among primitive men. You have seen great agricultural states growing up in Egypt, in the Land of the Two Rivers, in India, in China, and in Persia. You have seen these peoples working out the problems of order and freedom. You have seen them forming the great religions of the world, and working out ways for carrying on business.

You have followed the stories of Greece and Rome, and have learned how much we owe to them. Later you have seen all western Europe brought into one Christian Church, and governed by much the same feudal plan.

You have traveled with the Mongols into the heart of Russia and Asia. You have seen the islands of the sea settled by wandering tribes. And at last you have found how our own American continents were settled. You are ready to agree that ours is indeed a changing world. And you can see that many of the changes have been for the better.

To Talk About

Can you tell why differences in language make travel difficult?

Why did few of the sons of nobles go to school during the Middle Ages?

Do you think that people in the Middle Ages knew about germs? Why?

Some cities of today have a market. Are such markets like the medieval markets?

How many different kinds of artisans have their own shops in your city?

Was the "master" in a guild like the member of a labor union today?

How do boys and girls today prepare themselves for their lifework?

Do you think that we live in an Age of Wood today?

Why is it bad for any country to cut down too many of the trees?

Can you tell how a horse is harnessed today?

Does your own family "live by the clock"? In what ways?

How would some people who now wear glasses have to earn their living if there were no such things?

Why can you not do very good printing by the block method?

Do you think that all the books and papers that are printed have been good for the world?

How did guns and gunpowder help the white people to conquer the Indians in America?

Why did the Christians want to take Palestine?

Why did the Mongols like Russia better than western Europe?

Have you seen moving pictures of the South Sea Islands? What kind of life do the people live there?

Have you ever seen tattooing? How is it done?

Why did the early Indians do little beadwork?

Why does a sure food supply help people to settle down in cities?

In what way were the Inca plans good? In what ways were they poor?

Do you suppose that the world will change again in the future as it has in the past?

To Do

Can you show how the people who live in different parts of our country today differ in their speech?

Make a list of the universities in which older boys and girls in your community are studying.

Can you make up a song for the seller of a certain kind of goods?

Make a list of the good points of the guilds; of the bad points.

Take a trip to any shop in your city where apprentices are learning a trade.

Perhaps your class can help to save the trees in your part of the country by planting some young trees.

If possible, make a trip to a blacksmith's shop to see the blacksmith shoeing a horse.

Ask your science teacher to show you how the weights of a clock work.

Look at several small objects through a magnifying glass (a microscope). Look at some far-distant object through a telescope.

Make a trip to a small printing shop to see movable type set up by hand.

Look at the map to find out whether there is still a country held by the Turks.

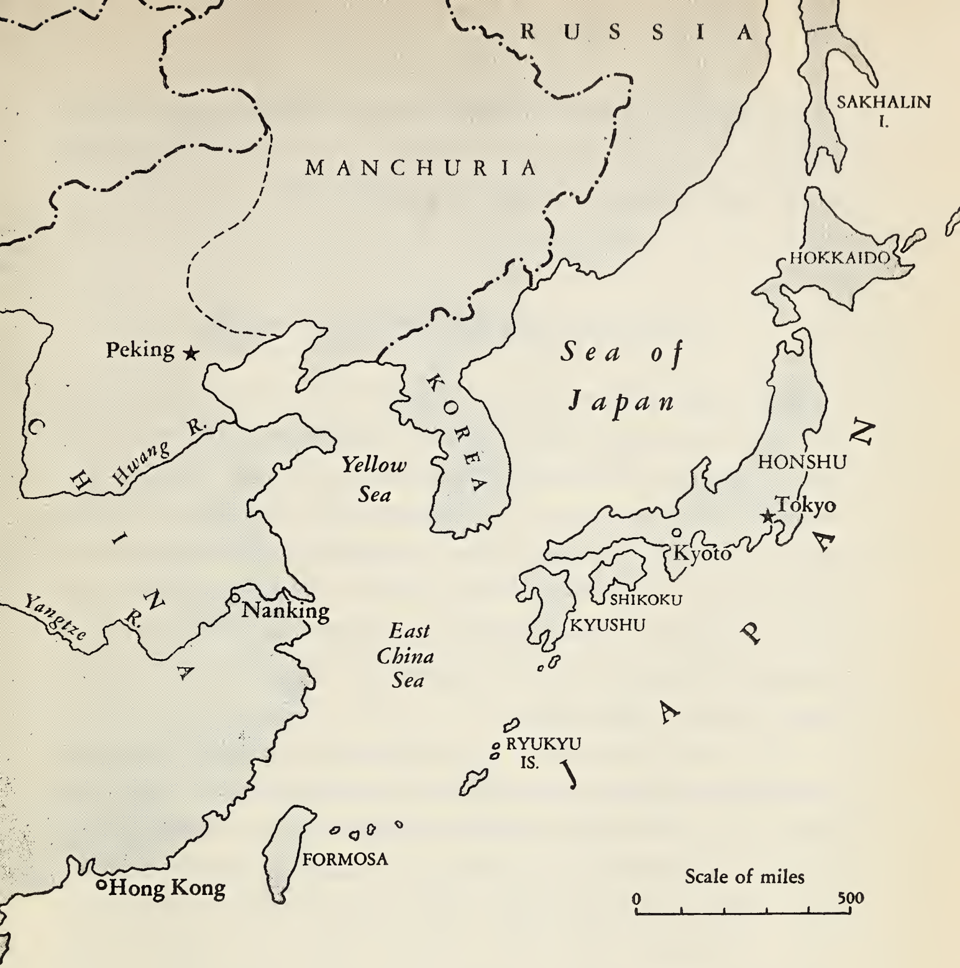
Find out by what name Peking is known today. (The encyclopedia will tell you.)

Make designs for tapa cloth.

Make a picture collection of life among the Woodland Indians, the Plains Indians, the Pueblo Indians.

You might like to make a sand painting.

Find pictures showing an eclipse of the sun or the moon. (The encyclopedia may help you.)



Japan and Its Neighbors

Why No Story Yet about Japan?

As you look back over the stories in this book you may ask, "Why is there no story about Japan?" for Japan is one of our nearest neighbors, even though we do speak of its location in the "Far East." Look at a globe and see how few miles there are between the easternmost of the

Japanese islands and the westernmost of the Alaskan chain. Moreover, the fathers or neighbors of many of you probably fought Japan during World War II.

A Country That Grew Up to Be Warlike

The name *Japan* means "Place of the Sunrise," and an old Japanese story tells that its people are children of the Sun Goddess. The belief probably grew up because the island-chain lies along the eastern coast of Asia. If that chain were off our own coast it would stretch from Newfoundland to the West Indies. On its western side is the Sea of Japan, beyond which are Korea and China. The islands are rocky, and only about one eighth of the land is good for growing crops.

For many hundreds of years these islands were the home of different tribes, each under its own headman. They had little to do with one another and little to do with the rest of Asia. Whenever a group grew too large to live in its own valley it would fight to possess the next valley also. For a thousand years this process went on, until at last one section was able to bring all the rest under its control. Perhaps it was natural that the leader of this group should be regarded as a descendant of the sun and therefore as divine.

Those thousand years of warfare left their mark on the Japanese people. War had come to be regarded as part of the ordinary business of living. The single individual person was not regarded as of much worth, what was good for the group was what mattered most. "The spirit eyes of the dead were watching every act of the living" to see that each person did his duty for his country.

The nearest neighbors to Japan were Korea and China. Both of these were older and farther advanced in civilization. They saw little that they wanted in the remote islands. But, as soon as the Japanese could build ships capable of crossing the Sea of Japan, they saw much to admire in the older civilizations. At once they set themselves to learn. And ever since, the Japanese have not been too proud to learn from anyone who could teach them what they wanted to know.

They had no system of writing and therefore had kept no written records. So they took over the Chinese system about which you read on pages 189–190. Handwriting became an art, as did drawing and painting. Of course only a few of the upper classes were able to read and write in ancient Japan.

They saw the beautiful Chinese paintings about which you read on pages 199 and 200. Since they were an artistic people they too began to paint. At first they used colors and gold freely, but later they came to prefer simple black and white.

Perhaps they were even more struck by the Buddhist religion than by any other foreign influence. It came to them early, by way of Korea. They liked the sober view of life that Buddha had taught, with its calmness in the face of anything that might happen. They believed that selfish desires must be kept down, and that they should rule their excited feelings. The warriors were made even bolder by the new teaching, and the agricultural workers were comforted in their poor way of life.

Buddhist temples in Korea and China gave the Japanese new ideas in building and decoration. The temples in the city of Kyoto (chosen as the capital in 794 A.D.) became wonders of beauty. They were gilded and carved and lacquered in many colors. Their gardens were planned by great artists with as much care as the finest paintings. But the homes, even of the nobles, remained plain and simple.

Other arts that were learned were the making of fine "china" and the casting of bronze. The Japanese learned to cast sweet-toned bells of bronze. And they made an enormous bronze statue of Buddha at a time when no country of Europe could have done such work. In the metal-working arts they went beyond their teachers, and their fine steel swords and daggers were the world's best.

In weaving they learned to care for silk worms and produced unbelievably fine garments of silk threaded with silver and gold. They learned to grow the rice plant, but tea did not become popular with them for many centuries.

Of course all these riches were for only the noble families and the great warriors. The common people had to work very hard and to pay very heavy taxes.

The teachings of Confucius, however, reached all classes. The Japanese accepted the duty of respect and love for parents as a duty second only to their duty to the overlord and emperor. The family, not the individual, counted most, and one must live for his family. Confucius's rules about politeness and correct behavior were practiced everywhere. Thus it can be seen that the Japanese learned early to bear with many different religions. They took from each one whatever they considered good.

But though the Japanese learned from both China and Korea, the civilization they built up was different from either. They put their own mark on it. The Chinese had many democratic ways of life, but the Japanese were more

Courtesy Museum of Fine Arts, Boston

Japanese Warriors when the Shogun Ruled

likely to follow their nobles. The Chinese were peaceful, but the Japanese were more warlike.

Most of the changes were made by the government, not by the people themselves. "The people's part has always been to follow; the government's, to lead."

Military Rule—The Emperor with Little Real Power

The tribes, one after another, fought and were conquered. The whole country came under one rule with the emperor at the top. But while the emperor lived in luxury and the people respected him as a god, he did not really run the government. He reigned but he did not rule.

Those who really did rule were the great warrior-families, sometimes one, sometimes another. But they remained in the background and ruled from behind the scenes. That was true in Japan right down to the present day, until after World War II. *Real power was usually held not by the person at the head of the government, but by someone who seemed only to advise him.* The chief "adviser" (really ruler) came to be called the Shogun.

You can see ways in which Japan in its middle ages was somewhat like Europe during the feudal period (page 328 and following). The greatest warrior families were nobles. They lived in castles. The castles were not like those in Europe nor was the lords' armor the same. But the lords protected the peasants and the peasants had to pay most of what they raised to the lords. The warrior class, the *samurai*, considered themselves far above the people who carried on the business of the country.

Thus for many centuries Japan continued her life, quite shut off from even the rest of Asia. For the fact that she was never conquered by any other Asian power she could thank her position as an island. No state had ever yet learned how to build large enough and good enough ships to carry a large army across such a body of water as the Sea of Japan. The Mongols, under Genghis's grandson, whose name was Kublai Khan, had once tried it and failed. Japan had not seemed to them important enough to make a second and stronger attempt.

The man who at last brought the great warrior families and even the Buddhist priests firmly under one rule was not an emperor. He was not even a noble. But he was a genius. His name was Hideyoshi. He was small and ugly-looking, and he is the only person in all Japanese history who succeeded in rising from the lowest class to the highest position in the land. He has been called "the greatest statesman of his century [the 1500's] whether in Japan or in Europe."

After Hideyoshi brought all the warring noble families under one rule he treated them well and they did not again try to rebel against him. He really united Japan. He made no attempt to set himself up as emperor, but set up a strong government. Japan became prosperous. The emperor sat on the throne, but Hideyoshi really ruled.

Then he set out to plan the conquest of Korea and of all China. He dreamed of moving the court to China and ruling all the Pacific Basin from there. He did not live to carry out his plan, but he had planted the germ of a dangerous idea.

These are the things that had been going on in Japan during many centuries. Europe knew little about the country. Most of the countries of Asia also knew little about it and cared less. China and Korea had occasionally had dealings with it but they felt very superior because their civilizations were older and they had been the teachers. Europe was soon to learn more about the island-kingdom —but that is a story for another book.

To Talk About

Do you think that Americans and Japanese should distrust one another because their countries fought in World War II?

Is Japan an independent country today? Is Korea? Is China?

Why do you suppose that both the Japanese and the Incas considered their rulers to be children of the sun?

Do you think that countries ought to borrow ideas from one another? Why, or why not? Could the United States benefit from some of the ideas of Confucius?

Is it hard today to move a large army across an ocean or sea? Why? Defend your answer.

Do soldiers or a warrior-class rule in our country?

To Do

Invite someone in your neighborhood who was in Japan during World War II, or after, to tell you about the land and the people.

Find maps of present-day China and Korea.

Can you find how long it takes to reach Japan by air from your state?

Compare the area of Japan with the area of some American states. Compare the populations. A geography book will help you.

Find pictures of life in ancient Japan before the country had learned Western ways of living.

On a globe study the position of Japan, Alaska, the Soviet Union.

Perhaps your class could visit a museum to see articles from Japan.

Index and Pronouncing Vocabulary

KEY. făt, fāte, câre, necklȧce, ärm, ȧsk, sofa̭; mĕt, mēte, ȇnough, hẽr, novḙl; ĭt, īce; nŏt, nōte, ȯbey, hôrse, ancho̭r; ŭs, ūse, u̇nite, fûr, stirrṷp; fo͝ot, fo͞od; oi *as in* oil; ou *as in* out; in̲k; bat̶h̶e; natu͡re.

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